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ABSTRACT

This handbook for institutional researchers focuses on describing methods and techniques for conducting and merging external and internal analyses in order to produce an expanded vision of alternative future environments. Such vision is needed for the formulation of strategic long-range plans. Section 1 begins with a discussion of how an internal analysis is conducted. The components of such an analysis are a review of the current organizational mission, identification of critical performance indicators, and identification of organizational strengths and weaknesses. Section 2 (external analysis) focuses first on how to identify the most critical trends that define the context within which the organization will function in the future, then on how to identify potential events that, if they occurred, would affect those trends or the organization directly. In addition, forecasting trend levels and event probabilities and the impacts of both are reviewed, as well as a description of how to interrelate trends and events in cross-impact analysis and how to assess their effects on critical performance indicators. Section 3 gives details on how to analyze scenarios in order to derive their implications for policy analysis, described in section 4. An appendix is included which is designed to enhance discussion of the text, such as a group facilitator's guide, an article on environmental scanning activities, and sample pages from an environmental scanner's notebook. Contains 151 references. (GLR)

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Using Futures Research in College and University Planning

A Handbook for Institutional Researchers

James L. Morrison
University of North Carolina at Chapel Hill

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James L. Morrison, UNC-Chapel Hill

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INTRODUCTION

We are living in exciting times, with unprecedented changes occurring in the world around us. Consequently, our institutions of higher education are faced with a complex, turbulent, and uncertain future that most assuredly will be different from the present. Administrators in those institutions recognize the need for a broadly based approach to institutional planning, one that is sensitive to the changing environment of higher education.

In recent years, a group of techniques has been developed that policy-makers may employ in establishing the strategic policy of their organizations. These techniques come under a broad category of methodology known as futures research. A primary purpose of this methodology is to assist planners in reducing the level of uncertainty associated with strategic decision-making. The focus of this methodology is the identification, analysis, and evaluation of alternative future states of an organization's environment and the sources of change within it.

At this conference, we will be using a planning process that integrates futures research techniques and methods to produce alternative futures. By linking environmental scanning information to the formulation of institutional strategy, administrators are able to assess the position of their institution in the external environment, to delineate alternative futures of that environment, and to define the strategies necessary to adapt to a range of anticipated changes in the environment.

The purpose of this handbook is to describe the methodology, broadly termed the alternative futures approach to strategic planning, that will strengthen an institution's planning process.

OVERVIEW OF THE ALTERNATIVE FUTURES APPROACH TO PLANNING

The approach described in this handbook is analogous to the planning process used by battlefield commanders (a role not too different from that of university administrator!). Commanders scan their external environment with electronic and human sensors to identify enemy tendencies (trends) and potential actions (events) that would affect their ability to accomplish the mission. Using these data along with intelligence summaries and staff judgments, they design operational plans adaptive to the dramatic shifts that are a natural result of the conditions under which they must operate. They know that to base total strategy on only one view of what the enemy will do is to invite disaster. Strategic planning, like the best operational planning, seeks to reduce uncertainty by considering what is likely to happen along with possibilities of what could happen.

We in higher education are not concerned with the "enemy," but the word "strategy," after all, is derived from the Latin *strategia*, meaning generalship. Higher education leaders, like generals, must be aware of trends and events in the environment that may affect success in accomplishing the mission. The higher education administrator, like the battlefield commander, seeks to reduce uncertainty by considering probabilities and possibilities.

Leaders recognize a central tenet of strategic planning: that organizational performance is dependent upon finding the appropriate match between the organization and its environment. Accordingly, the planning objective is to find or create an alignment between the threats and opportunities inherent in the environment and the strengths and weaknesses of the organization. The effectiveness of our planning will largely depend upon how well we identify, monitor, and correctly assess the impact of major developments in the external environment in juxtaposition with internal systems.

Conventional planning models are weak in identifying and assessing the effect on the institution of external environmental changes. The underlying premise of such models is that future changes in the external environment will reflect the rate and direction of present trends (particularly pronounced in projections of enrollment and staffing). By using such models, administrators are led to assume that the future will reflect the past and present—that a "most likely" future will emerge over time, in essence a "surprise-free" future.

To base the institutional strategy of colleges and universities solely on the assumptions of a "most likely" future, however, ignores the possibility of alternative futures occurring as a result if unanticipated events and developments. The consequence of such "surprise" events and developments is that operational plans must be abandoned or, at the very least, continually adapted to unexpected shifts in the external conditions under which higher education must naturally operate.

The unique feature of the alternative futures approach to planning is the requirement to identify potential events and to think through their implications for higher education *if they should occur*. By systematically identifying, forecasting, and taking into account the implications of critical trends and events—and their interrelationships—we will expand our vision and, therefore, be able to develop a more anticipatory, proactive, strategic plan.

METHODOLOGICAL ASSUMPTIONS

The assumptions upon which the alternative futures approach to planning is based are as follows (Boucher and Morrison 1989):

a. It is not possible to predict the future, but it is possible to forecast events in terms of their probability of occurrence and it is also possible to forecast whether trend levels will increase, decrease, or stay virtually the same over the period in question. This enables planners to account explicitly for varying degrees of uncertainty.

b. Forecasts must sweep widely across possible future developments in such areas as demographics, technology, economics, and politics.

c. Forecasts must take into account the interrelatedness of the areas noted above and across international, national, regional, and local dimensions. For example, an agricultural innovation leading to greater crop production in an underdeveloped country may lead to political stability in that country. Or, a significant increase (or decrease) in OPEC oil prices will dramatically affect the economy of the industrialized countries, which in turn will affect . . ., etc.

d. The planning objective is to improve our understanding of possible future environments within which higher education will be operating in the next ten to thirty years. This provides an enriched and more informed background against which to examine the strengths and weaknesses of higher education, thus encouraging flexibility in objectives. Having examined more than just the most likely developments and with a continuous and ongoing mechanism for scanning external trends and events, the organization can be proactive in how it staffs and structures itself. Although the future can never be surprise-free, this method can significantly reduce uncertainty and can keep our decision-makers well informed.

e. The primary purpose of developing and analyzing multiple futures is to assess goal alternatives in a complex and uncertain planning environment. The process articulated here does not replace conventional forms of analysis. Instead, it complements other information resources that help higher education leadership evaluate institutional missions, objectives, resources, capabilities, ongoing programs, and current strategies.

f. Good forecasts derive primarily from human judgment, creativity, and imagination, not mathematical extrapolations based upon historical data. Mathematical trend forecasts have their bases in previous or existing interrelationships of variables and therefore rest upon an assumption that the future will be like the past. This assumption becomes more untenable as we proceed into the future because events may occur that can affect the prior interrelationships among variables or trends themselves.

A model based upon these assumptions is shown in Figure 1. Basically, the model states that from the experience of organizational leaders or through environmental scanning, leaders identify issues or concerns that may require attention. These issues/concerns are then defined in terms of their component parts — trends and events, which are then forecast. These activities

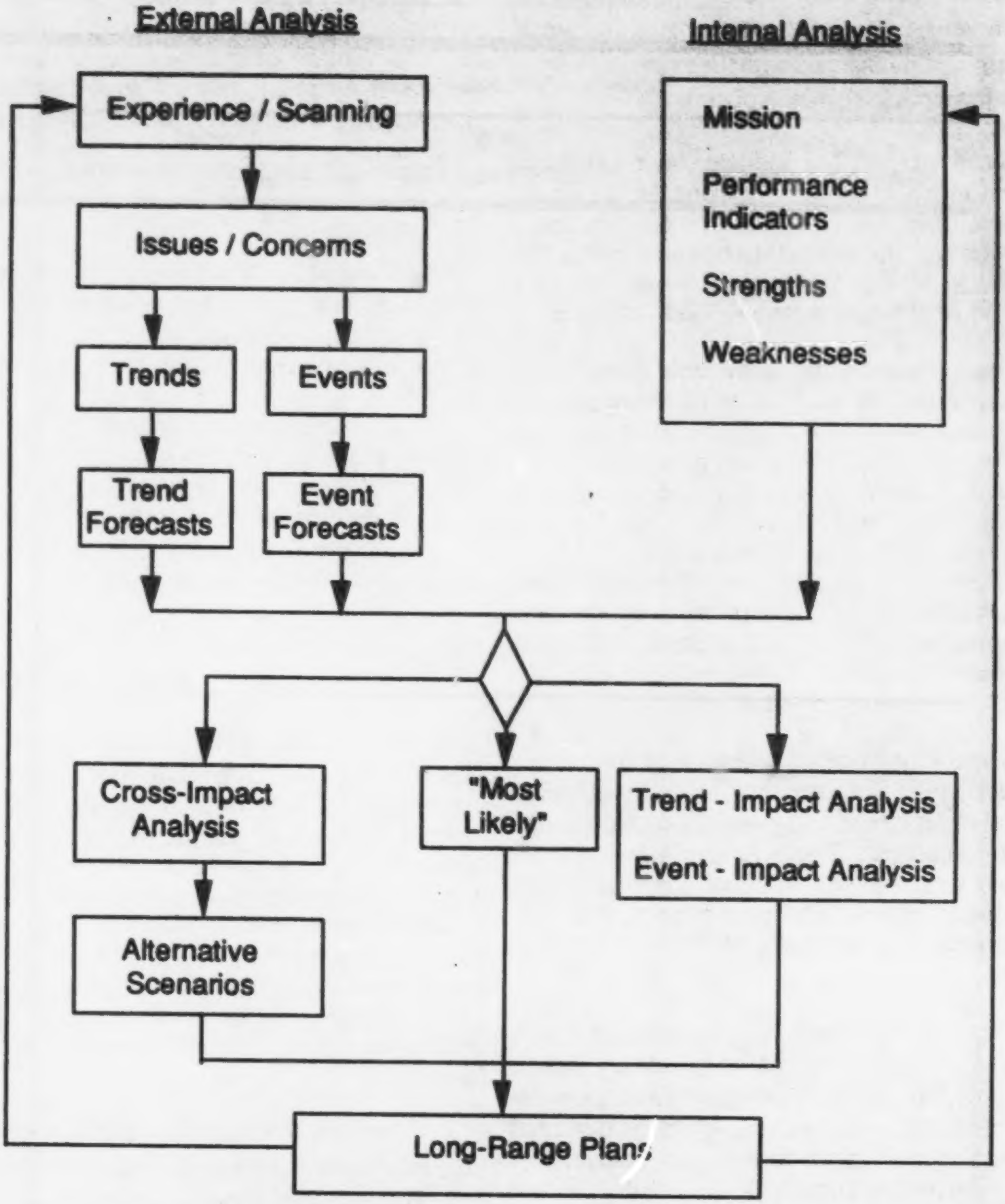
External Analysis
Internal Analysis
Experience / Scanning
Issues / Concerns
Trends
Events
Trend Forecasts
Event Forecasts
Mission
Performance Indicators
Strengths
Weaknesses
Cross-Impact Analysis
"Most Likely"
Trend - Impact Analysis
Event - Impact Analysis
Alternative Scenarios
Long-Range Plans

Figure 1. THE ALTERNATIVE FUTURES APPROACH TO STRATEGIC PLANNING

constitute the beginning of an external analysis.

An internal analysis is also conducted. This analysis consists of defining the organizational mission, performance indicators, and strengths and weaknesses. Merging this analysis with the external analysis constitutes strategic long-range planning.

This merger may be conducted in several ways. First, the traditional approach is to consider the results of the internal analysis in the "most likely" future, a future derived from forecasted trends and events that are expected to occur. This approach provides little consideration to developments less likely to occur.

As noted above, the distinction between the traditional approach to long-range planning and the alternative futures approach is that the latter approach forces us to think of the implications of possible developments that, if they occurred, would change our future. As shown in Figure 1, there are two submodels of this approach. The simpler method is to conduct a trend and an event impact analysis of the implications of these potential external developments on the mission, performance indicators, and strengths and weaknesses of the organization. As we shall see later, it is relatively easy to conduct this analysis.

A more sophisticated approach to conducting an external analysis is to generate alternative futures from the univariate trend and event forecasts through cross-impact analysis. These futures allow a more rigorous and robust examination of the possibilities facing the organization, but they require skilled individuals with training in futures research methods to implement.

Whichever approach is used, the process is iterative. We must continually scan to identify signals of change not identified previously, or changes in the probabilities of events or in trend levels in the trend and event set. We must also continue to collect data specified by the performance indicators, and to be alert to changes in mission as well as strengths and weaknesses.

OVERVIEW OF THIS HANDBOOK

There are two basic approaches to strategic planning—the "outside-in" approach and the "inside-out" approach. Both approaches focus on merging external with internal analyses to enable decision-makers to formulate plans in the light of these analyses. They differ in emphasis. Advocates of the inside-out approach speak of developing an organizational vision (i.e., purpose, mission) before examining the external environment for factors that would facilitate or hinder the achievement of that vision. Advocates of the outside-in approach talk of an examination of the external environment *writ broad* in order to obtain an understanding of the possible before developing a statement of the desirable (i.e., the organizational vision).

The approach advocated in this handbook is outside-in, and places heavy emphasis on external analyses. The handbook will describe and illustrate different techniques within this general framework.

To summarize, this handbook focuses on describing methods and techniques for conducting and merging external and internal analyses in order to produce alternative future environments that serve to expand our vision of the possibilities we need to take into account as we formulate strategic long-range plans.

ORGANIZATION OF THIS HANDBOOK

The handbook consists of four sections and five appendices, as well as a bibliography for further reading. Section I begins with a discussion of how an internal analysis is conducted. Components of an internal analysis are a review of the current organizational mission, identification of critical performance indicators, and identification of organizational strengths and weaknesses. Much of the rest of the handbook concentrates on techniques for estimating how potential or emerging factors in the external environment could affect those elements identified in the internal analysis.

Section II, external analysis, focuses first on how to identify the most critical trends that define the context within which the organization will function in the future, then how to identify potential events that, if they occurred, would affect those trends or the organization directly. Next, after the trend and event set has been identified, discussion concentrates on forecasting trend levels and event probabilities and the impacts of both trends and events. This discussion is followed by a description of how to interrelate trends and events in cross-impact analysis and how to assess their effects on critical performance indicators. This section concludes with a discussion of how to write scenarios.

Section III details how to analyze scenarios in order to derive their implications for policy analysis, described in Section IV.

The appendices are designed to enhance the discussions in the main body of the handbook. Appendix A is a guide for the group facilitator working with the planning team. Appendix B is an example of a Delphi questionnaire where respondents are requested to forecast trend levels and event probabilities. Appendix C is a description of how an ongoing scanning program may be developed. Appendix D presents a brief example of the kinds of materials to be included in an environmental scanning notebook. Appendix E contains a brief biographical sketch of the author.

SECTION 1: INTERNAL ANALYSIS

The internal analysis of an organization requires an analysis of the mission, strengths and weaknesses, and performance indicators. The purpose of this section is to define and discuss these factors.

IDENTIFICATION OF MISSION

Understanding the interrelationships of the terms "mission," "goals," and "objectives" is important for the planning team in analyzing the organization. These definitions are provided:

Mission Statement. A mission statement is a succinct description of the purpose and scope of the organization. More specifically, it tells why the organization exists and what it wants to achieve.

Goals. Goals are far-reaching, desired results or outcomes sought by the organization over a long term. As such, they further define and clarify the mission. If they are achieved, the organization is accomplishing its mission.

Objectives. Objectives are measurable results of activities designed to accomplish goals. They should be attainable, clearly understood, very specific, and related to a definite timeframe. When the objectives defining a goal statement are attained, the goal is attained.

It may be useful for the planning team to think in terms of "why, what, who" in analyzing the organization. Figure 2 shows a form that could be used for this purpose.

IDENTIFICATION OF PERFORMANCE INDICATORS

Performance indicators are "internal" trends. They serve as a response to the question, "What are those critical indicators that tell us how well we are performing as an organization?"

Once an initial list of key indicators is developed, the team should discuss the significance of each indicator. Then they should identify a manageable number of indicators (ten-fifteen) that the majority of team members believe to be the most significant in evaluating organizational performance. The list of selected indicators will be used later in the process, when the internal and external analyses are combined.

IDENTIFICATION OF STRENGTHS AND WEAKNESSES

Each organization has strengths and weaknesses that contribute to a profile of its competence. A strength of the organization might be considered that which increases attractiveness; a weakness, conversely, would be a condition that decreases attractiveness.

In identifying strengths and weaknesses, the planning team may find it helpful to think of these characteristics in relation to current mission requirements. Strengths and weaknesses may also be considered in terms of future mission. Figure 3 offers a form for use by planning team members.

The purpose of identifying organizational strengths and weaknesses is to examine their relationship to strategic options developed at the conclusion of the first iteration of the planning cycle. The next section of the handbook describes how strengths and weaknesses, along with performance indicators, may be used in a merged internal/external analysis.

Name of Organization ______________________________

	DEFINITIONAL CATEGORIES		
	Who CLIENTS/GROUPS SERVED...	***Why*** NEEDS SATISFIED...	***What*** SERVICES OFFERED...
PRESENT			
FUTURE			

Figure 2. ELEMENTS OF THE MISSION

Name of Organization_______________

STRENGTHS (Current advantageous situations, capabilities and/or successes)	WEAKNESSES (Current disadvantageous situations, capabilities and/or lack of successes)
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.
8.	8.
9.	9.
10.	10.
11.	11.
12.	12.

NOTE: Use as many forms as required by the number of strengths and weaknesses identified by the group.

Figure 3. ORGANIZATIONAL STRENGTHS/WEAKNESSES

SECTION 2: EXTERNAL ANALYSIS

Effective strategic long-range planning requires accurate and precise identification and articulation of issues/concerns. Issues may be structured by identifying their parts in some policy-relevant way. For our purposes, issues can be "untangled" in the form of trends and events. Trends are verbal or numerical representations of a series of social, technological, economic or political characteristics that can be estimated and/or measured over time. They are statements of the general direction of change, usually gradual and long-term, and reflect the forces shaping the region, nation, or society in general. Trend information may be used to describe the future, identify emerging issues, or project future events. For example, at most schools, student profiles are changing. Indicators of this trend include the increasing number of female students in higher education, the mix of minority students as a percentage of total enrollment, and a change in the proportionate representation of different socio-economic classes in a particular age-cohort (e.g., 18-24 year olds).

Events are discrete, confirmable occurrences that make the future different from the past. "Federal government cuts student financial aid grants by 50%" would be an example of an event.

Structuring the planning problem, in short, includes developing a set of trends that measure change in individual categories, along with a set of possible future events that, if they were to occur, might have a significant effect on these trends, or on each other. The trend and event set should be chosen to reflect the complexity and multidimensionality of the category. Ordinarily, this means that the trends and events will describe a wide variety of social, technological, economic, and political factors in the national and global environment.

Stated differently, the set of trends and events serves to focus the analyst's attention on the changing forces within the external environment. The interaction of the trends and events represents the environmental forces shaping the organization's future. However, since it is a basic assumption of futures research that the future is not determined solely by current environmental change, the decision-maker can influence the future through the intervention of human action. These three elements—trends, events, and human action—form the basis for conceptualizing a model of the future. The components of such a model include:

1. The "most likely" future as represented by key trends and potential events that are expected to occur.

2. The sudden external changes that are represented by the uncertain occurrence of events, the impact of which can affect each other and the trends identified previously.

3. The human interventions as represented by the strategies, policies or actions that may be taken by the decision-maker.

To summarize, external analysis involves at a minimum the identification of critical trends and potential events and forecasting trend levels and event probabilities over a specified time period. At a more sophisticated level, external analysis involves interrelating trends and events through cross-impact analysis and/or developing scenarios that represent possible alternative futures. This section describes how the planning team can go about these activities.

TREND AND EVENT IDENTIFICATION

There are basically two approaches to trend and event identification. First, planning team members could conduct a trend and event identification exercise independently. This would consist of a search of the literature for environmental scans conducted by other organizations (e.g., United Way of America, the Institute for the Future, etc.) supplemented by searching for information on specific trends and events. The result should be an environmental scanning notebook of emerging issues, potential events and critical trends that could affect the organization during the planning time frame. The notebook (see Appendix C for a truncated example) should include the following: (a) trend extrapolations of key statistics (e.g., the number of secondary school graduates); (b) recent articles about the future; (c) speeches and comments by influential individuals (e.g., legislators, policy makers, researchers, futurists, etc.); (d) information on technological, economic, social, and political developments having possible future significance for higher education; and (e) data suggesting changes in values/attitudes that affect higher education. From the task of developing such a notebook, the team would be guided by an initial notion of those critical trends and events that could affect higher education, a notion that would continue to develop as scanning progresses.

In addition to providing background information for the planning team, the notebook may be used as background material to construct a Delphi questionnaire (the construction of which is discussed in the section on forecasting). Several rounds of Delphi could be administered to planning team members and to other members of the administration prior to the first planning session, with a final round conducted during the session itself. Delphi questionnaires allow more members of the organization to participate in the planning process, thereby resulting in a more inclusive trend and event set. Moreover, this approach allows more time during the first face-to-face conference for discussing the importance and the impact of the trends and events. (However, the development, administration, and tabulation of the questionnaires for each of the Delphi rounds takes substantial time to complete.)

A second approach is to involve senior decision-makers in a three-to six-hour workshop. In this approach, a "read-ahead" could be provided that explains the approach being used for strategic planning and consists of several homework exercises designed to elicit from participants their concept of critical trends and events. If possible, distribute the environmental scanning notebook prior to the workshop.

In this workshop it is important to encourage contributions from each planning team member in order to obtain a maximally comprehensive set of trends. If the team is dominated by a few individuals, an alternative procedure may be used: Request each team member individually to list on a sheet of paper the trends that he/she thinks are most important to the future of the organization. After everyone has completed this list, collect each person's list and redistribute them so that each person receives another's list. One at a time, each planning team member shares one trend from the list given to him/her, as the facilitator records each trend on a flip chart. This continues until trend nominations are exhausted. (See Appendix A for additional instructions on how to facilitate the work of small planning teams.)

After the trend set has been generated, the planning team is faced with the task of delimiting what is may be a very large trend set. One technique to narrow the set to a more manageable level for initial planning purposes is to ask each team member to vote for the five trends that he/she believes will have the greatest impact on the organization. The ten to fifteen trends most frequently chosen become part of the list of "Critical Trends." Those trends not selected are included in the organization's data bank of trends for future reference.

DEVELOPING TREND STATEMENTS

Trends may be stated in several forms. Most people, when they think of trends, state them in a forecast form (e.g., "the life expectancy of the population of the industrialized countries is increasing"). The advantage of stating trends in this form is that people are accustomed to the form, and they may be used in elementary analyses as we relate potential impacts of external developments to internal functions. However, trends stated in this form lack precision—how much of an increase (or decrease) and over what period of time? For forecasting purposes, as we will see later, stating trends in a "neutral" format and requesting senior leaders or other experts to forecast their levels over specified time periods adds an element of precision to forecasts and enables one to use such forecasts in more complex analyses (e.g., cross-impact analysis). For example, the trend above, stated in a neutral format, would read as follows:

- Life expectancy of the population of the industrialized countries

In addition, trend statements should be simplified by using a process consisting of the following tasks:

- Derive the main idea underlying each trend statement.
- If a statement has more than one major idea, create two or more statements.
- If several statements have the same idea, develop a single statement representing them all.
- Reduce statement length by substituting one-word synonyms for underlying concepts.

DEVELOPING EVENT STATEMENTS

Again, it is important to identify potential events in the social, technological, economic and social sectors, regional through global levels, that would affect higher education if they should occur. For example, "U.S. Congress mandates a period of national service for all 17-20 year olds." If this event occurred, or if people *thought* it would occur, higher education could be affected. Events are what make our future uncertain. Therefore, anticipating events is a major challenge facing the organization.

There are a number of criteria to be used in writing event statements:

- An event should be stated as a single occurrence rather than as multiple occurrences (e.g., "A occurs," rather than "A,B, and C occur").
- An event should not be stated in the form, "A occurs because of B," except where the cause is part of the event to be studied.
- An event should be definite and specific (e.g., "At least 20 percent of persons are functionally illiterate," rather than, "Many adults are functionally illiterate"). Avoid ambiguous terms such as "most," "widely used," "normal," and "in general use."

As a general rule, event statements should not be over twenty-five words long to ensure the greatest degree of understanding.

FORECASTING TRENDS

Having defined the trend set, the next step is to forecast subjectively the most likely level of trends over the period of strategic interest (e.g., the next thirty years), assuming no major discontinuities in the current evolution of the system. A simple way to forecast trends and obtain information to assist in setting priorities as to their importance to the organization is to request respondents (a) to forecast the level of each trend for at least two points in time and (b) to assess both the positive and negative consequences for the organization, should the trend materialize as forecasted. A Delphi questionnaire is used to obtain the forecasts, usually conducted over several rounds (see Appendix B for a sample Delphi questionnaire for forecasting trends).

A major purpose of using the Delphi format is to generate discussion about the factors underlying forecasts. This is done by first tallying the Round 1 (R1) responses. To do this, derive the median estimate of each trend's level for each point in time, and derive a mean for the trend's impact for the organization should it materialize as forecasted. These statistics should be distributed to all respondents and discussed, if possible, in a conference setting. A recommended posture for conducting the discussion is first to focus on the distribution of "votes" for each time period. Ask the question, "What is the reasoning behind the highest level estimated and behind the lowest level estimated?" Do not focus on who made these estimations. The same approach may be used for the estimated degree of impact for the organization if the trend materializes as forecast.

As a result of the discussion, the team may decide to reestimate the value of certain trends; the discussion process tends to improve the quality of the product.

FORECASTING EVENTS

The probability of events may also be forecast in the same Delphi questionnaire. Of course, it is possible to simplify the requirements for event forecasting by requesting respondents to estimate the probability of an event's occurrence for one or two time intervals.

Once R1 is completed, the results may be tabulated in terms of median estimates of probability of occurrence for the specified time periods and mean impacts. (Median estimates are used in subjective forecasting of trend levels and event probabilities because such estimates are usually characterized by extreme scores.) These statistics also should be distributed to all respondents and discussed, if possible, in a conference setting. As with trends, a recommended posture for conducting the discussion is first to focus on the distribution of "votes" for each time period. Ask the question, "What is the reasoning behind the highest level estimated and behind the lowest level estimated?" Again, do not focus on who made these estimations. The same approach may be used for the estimated degree of consequence for the organization if the event occurs. As a result of the discussion, the team may decide to reestimate the probability and impact of certain potential events.

ASSESSING THE INTERRELATIONSHIPS BETWEEN TRENDS AND EVENTS: CROSS-IMPACT ANALYSIS

The essential idea behind cross-impact analysis is to define explicitly and completely the pair-wise causal connections within a set of forecasted developments. In general, this process involves asking how the prior occurrence of a particular event might affect other events or trends in the set. When these relationships have been specified, it becomes possible to let events "happen"— either randomly, in accordance with their estimated probability, or in some prearranged way— and then trace out a new, distinct, plausible and internally consistent set of forecasts. This analysis allows the planning team to assess the effect of one event's occurrence on the probability of other events and can develop the understanding that events of the future are frequently interrelated. Furthermore, through assessing interrelationships, events are identified that, should they occur, have the potential to be powerful "actors" in the organization's environment. The information gained from a cross-impact matrix will assist the team in developing the organization's alternative futures and in establishing the causal relationships in a scenario. Examples of cross-impact matrices and their uses are discussed below.

Event-to-Event Assessment. Using the event-to-event cross-impact form (see Figure 4), for every cell in the matrix, each team member should (a) take note of the event listed to the left of the cell and (b) assess how the occurrence of that event would affect the likelihood of each event in the rest of the set. A variety of scales can be used to assess event-to-event impact. If team members have no experience with the cross-impact technique, they may decide to use plus or minus indicators, ("+/-") with "++" indicating a great increase, "0" representing no change, and "—" specifying great decrease. Alternatively, with a more experienced team, a numeric scale may be used (e.g., "+3 to -3"; "-9 to +9").

For each cell, if the team uses a numeric scale, the responses of all team members are collected and summed algebraically (i.e., with regard to sign); the resulting "team score" indicates the degree to which an event's probability is influenced by another event. If the teamuses plus or minus indicators, a group consensus must be reached about the "score" for each cell (a technique can, of course, also can be used with numeric scales). The team cell scores are summed for each row and each column without regard to the sign (+/-) of the cell score. (If the team uses plus and minus indicators, add the number of each to obtain row and column totals.) The row totals represent the impact of an event's occurrence relative to all other events—the larger the sum, the greater the impact. The column totals indicate the relative sensitivity of an event to the occurrence of the other events—the larger the sum, the greater the sensitivity. The information in the cells, row totals, and column totals can be used in developing scenarios.

Event-to-Trend Assessment. Using the event-to-trend cross-impact matrix form (see Figure 5), team members again list events on the left side of their forms. Across the top of the matrix, the team members list abbreviated trend statements. As in the event-to-event

CROSS-IMPACT ASSESSMENT OF EVENTS ON EVENTS

EVENT DESCRIPTOR If this event were to occur by the year 2000 ... ↓	**EVENT IMPACT** Then how would it change the probability of this event occurring by the year 2000 ...									**IMPACT SCORE**
	E1	E2	E3	E4	E5	E6	E7	E8	E9	
E1	▨									
E 2		▨								
E 3			▨							
E 4				▨						
E 5					▨					
E 6						▨				
E7							▨			
E8								▨		
E9									▨	
Sensitivity Score										▨

Figure 4. CROSS-IMPACT ASSESSMENT OF EVENTS ON EVENTS

CROSS-IMPACT ASSESSMENT OF EVENTS ON TRENDS

EVENT DESCRIPTOR If this event were to occur by the year 2000 ... ↓	**TREND IMPACT** Then how would it change the level of the trend?									**IMPACT SCORE**
	E1	E2	E3	E4	E5	E6	E7	E8	E9	
E1	▨									
E 2		▨								
E 3			▨							
E 4				▨						
E 5					▨					
E 6						▨				
E7							▨			
E8								▨		
E9									▨	
Sensitivity Score										▨

Figure 5. CROSS-IMPACT ASSESSMENT OF EVENTS ON TRENDS

assessment, each member notes the event to the left of the cell, assesses how the occurrence of that event would affect the level of the trend that is listed above the cell, and assigns a score according to the scale used. Again, assessments are tabulated for each cell algebraically, indicating the degree to which the trend level is affected by the specified event. Row and column sums are also calculated without regard to sign.

To speed the cross-impact assessment process, the team can be divided into two groups, with one group conducting the event-to-event assessment and the other group completing the event-to-trend analysis.

One purpose in asking team members to estimate independently the effects of events on the probability of other events or the effect of events on trend levels is to use these estimates to generate discussion about the factors underlying the relationships of trends and events in the set. This discussion can be conducted in much the same fashion as recommended in the forecasting exercises. After this discussion concludes, team members may want to vote again. Or, as an alternative, the team may enter cell values after some degree of consensus is achieved through discussion.

ASSESSING CRITICAL TRENDS AND EVENTS ON KEY PERFORMANCE INDICATORS

Following the selection of the critical trends and events and the assessment of their interrelationships, the planning team should assess the importance of the identified trends and events and estimate their impact on key performance indicators. This assessment process—trend/event impact analysis—is similar to cross-impact analysis and serves to identify specific changes in organizational performance that may result from the critical trends and events.

To reduce the time required for this phase of the process, the team may be divided into groups, and each group should be assigned a portion of the key indicators. Using the grid shown in Figure 6, list the assigned indicators at the top of the grid and the trend and event set on the left. To assess the impact that each trend and event will have upon assigned indicators, assume that the forecast is correct. For trends, ask the question, if this trend materializes as forecast, will it have an effect on performance indicator number one? If so, how will it affect that indicator? That is, if the trend continues as forecast, and it would affect the performance indicator, will it increase the performance indicator, or will it decrease it? Again, you may use a numeric sclae or plus and minus indicators. If, for example, you use the latter, apply the following logic. If the trend would severely decrease the performance indicator, put a "—" in the indicated box. If it would moderately or slightly decrease it, put a "–" in the box. Use the same logic if the trend would increase the indicator. If the trend would have no impact on that indicator, put a "0" in the box.

For events, assume that the event occurs. Ask the question, if this event occurs, will it have an effect on performance indicator number one? If so, how will it affect performance indicator number one? That is, if the event occurs, and this occurrence would affect the performance indicator, will it decrease it? If it would severely decrease the level of the performance indicator, put a "—" in the box. If it would moderately or slightly decrease it, put a "-" in the box. Use the same logic if the occurrence of the event would increase the indicator. If the event would have no impact on that indicator, put a "0" in the box.

In addition, the absolute sum (i.e., each "+" or "-" counts as a "1") of the total positive and total negative impacts for each trend and event is entered in the absolute impact column and identifies the trends and events that have the potential to affect the organization's performance the most. This assessment provides information for use in the development of alternative scenarios.

It is also useful to regard this exercise as a Delphi and conduct a discussion of the variation of responses individuals have assessed for the extent of the relationships of trends and events on each performance indicator. As in the trend and event forecasting exercise, individual team members provide reasons for the variation of "votes" that is virtually certain to occur. The objective, again, is to obtain as much information as possible about the relationship of trends, events, and performance indicators. In so doing, members of the

KEY INDICATORS															IMPACT		
TRENDS/EVENTS															Total Positive	Total Negative	Absolute

Figure 6. ASSESSMENT OF TRENDS/EVENTS ON KEY INDICATORS

team will come to have a common understanding of how the world works, or at least a better understanding of why they disagree as to how the world works!

DEVELOPING SCENARIOS

Scenarios are narrative descriptions of possible futures. A single scenario represents a history of the future. The "most likely" future, for example, contains all of the forecasts from the forecasting activity in a narrative weaving them together from some point in the future, describing the history of how they unfolded. Alternatives to this future are based upon the occurrence or nonoccurrence of particular events in the event set. Such alternatives define unique mixes of future environmental forces that may have an impact on higher education. The different scenarios are, themselves, forecasts, and the range of uncertainty in the scenario alters projections based on the past. The alternative future depicted by a scenario permits identification of causal relationships and impacts, as well as points for possible intervention and a basis for organizational strategies.

Any of a number of scenario taxonomies, each with its own benefits and limitations, may be used to guide the development of a scenario logic. The most comprehensive of the taxonomies, however, was developed by Wayne Boucher (1985) and updated by Boucher and Morrison (1989). In this taxonomy there are four distinct types of scenarios: the demonstration scenario, the driving-force scenario, the system change scenario, and the slice-of-time scenario. The first three types are characteristic of "path-through-time" narratives; the fourth is a "slice-of-time" narrative. The following descriptions are derived from Boucher (1985) as updated in Boucher and Morrison (1989).

The demonstration scenario was pioneered by Herman Kahn, Harvey De Weerd, and others at RAND in the early days of systems analysis. In this type of scenario, the writer first imagines a particular end-state in the future and then describes a distinct and plausible path of events that could lead to that end-state. In the branch-point version of this type of scenario, attention is called to decisive events along the path (i.e., events that represent points at which crucial choices were made—or not made—thus determining the outcome). Thus the branch points, rather than the final outcome, become the object of policy attention. The events at the branch points raise two kinds of questions: (a) how does a situation come about, step by step; and (b) what interventional choices could be made at each step?

The major weakness of the demonstration scenario, as Boucher (1985) points out, is that it is based upon "genius" forecasting and is, therefore, dependent upon the idiosyncrasies and experiences of individuals. However, this type of scenario (like all methods and techniques in this field) is useful in both stimulating and disciplining the imagination.

The driving-force scenario examines the interrelationship of driving forces—for example, GNP growth and population growth. The writer's task is to describe each possible future that might result from various combinations of those forces.

The purpose of the driving force scenario is to clarify the nature of the future by contrasting alternative futures with others in the same scenario space. It may well be that certain policies would fare equally well in most of the futures, or that certain futures may pose problems for the organization. In the latter case, decision makers will know where to direct their monitoring and scanning efforts.

The major weakness of the driving-force scenario is the assumption that the trend levels, once specified, are fixed—an assumption that suffers the same criticism directed to planning assumptions in traditional long-range planning activities (i.e., they ignore potential events that, if they occurred, would affect trend levels). The advantage of this type of scenario, however, is that, when well executed, the analysis of strategic choice is simplified—a function of considerable value at the beginning of an environmental or policy analysis when the search for key variables is most perplexing.

The system-change scenario is designed to explore systematically, comprehensively, and consistently the interrelationships and implications of a set of trend and event forecasts. This set, which may be developed through scanning, genius forecasting, or a Delphi, embraces the full range of concerns in the social, technological, economic and political environments. Thus, this scenario type varies both from the demonstration scenario (which leads to a single outcome and ignores most of all of the other developments contemporaneous with it) and from the driving-force scenario (which takes account of a full range of future developments but assumes that the driving trends are unchanging), in that there is no single event that caps the scenario, and there are no *a priori* driving forces.

The system-change scenario depends upon cross-impact analysis to develop the outline of alternative futures. The writer must still use a good deal of creativity to make each alternative intriguing by highlighting key branch points and elaborating on critical causal relationships. However, this scenario suffers from the same criticisms that may be leveled at driving-force and demonstration scenarios: although everything that matters is explicitly stated, all of the input data and relationships are judgmental. Moreover, the scenario space of each trend projection is defined by upper and lower envelopes as a consequence of the cross-impacts of events from the various scenarios that are run. Although it is valuable to know these envelopes, this information by itself provides no guidance in deciding which of the many alternative futures that can be generated should serve as the basis for writing scenarios. This choice must be made using such criteria as "interest," "plausibility," or "relevance."

The slice-of-time scenario jumps to a future period in which a set of conditions comes to fruition, and then describes how stakeholders think, feel, and behave in that environment (as in George Orwell's novel, *1984*). The objective is to summarize a perception about the future to show that the future may be more (or less) desirable, fearful, or attainable than is now generally thought. If the time period within the "slice of time" is wide, say from today to the year 2010, it is possible to identify the macro-trends over this period. In this sense, a slice-of-time scenario is the same as the "environmental assumptions" found in many college and university plans. The weakness of this approach is that there is no explanation as to the influences on the direction of these trends, no plausible description of how (and why) they change over time.

Variations in these types of scenarios occur according to the perspective brought to the task by scenario writers. Boucher (1985) points out that writers using the exploratory perspective adopt a neutral stance toward the future, appearing to be objective, scientific, and impartial. The approach is to have the scenario begin in the present and unfold from there to the end of the period of interest. The reader "discovers" the future as it materializes. The most common version of this mode, "surprise-free," describes the effects of new events and policies, although only likely events and policies are used. A second version, the "play-out" version, assumes that only current forces and policy choices are allowed to be felt in the future (i.e., no technological discoveries or revolutions are permitted).

Writers using the normative perspective focus on the question, "What kind of future might we have?" They respond to this question from a value-laden perspective, describing a "favored and attainable" end-state (a financially stable college and the sequence of events that show how this could be achieved) or a "feared but possible" end-state (merger with another institution).

In the hypothetical or what-if mode, writers experiment with the probabilities of event forecasts to "see what might happen." In this mode, the writer explores the sensitivity of earlier results to changes in particular assumptions. Many "worst case" and "best case" scenarios are of this sort.

Boucher (1985) maintains that all scenarios may be placed in a particular type/mode combination. Unfortunately, such a strategy ignores potentially important alternative futures from such type/mode combinations as the exploratory system change or exploratory driving-force scenarios. The choice of which scenario to write must be made carefully.

By providing a realistic range of possibilities, scenarios facilitate the identification of common features likely to have an impact on higher education no matter which alternative occurs. It is conventional to create from three to five such histories to cover the range of uncertainty.

The data developed in the planning process serve as the basic data pool for preparing a series of scenarios. Specifically, the data pool includes the following:

1. A list of critical trends and events
2. An assessment of the organization's mission
3. A list of key performance indicators
4. A cross-impact matrix showing the interrelationships of events and trends

As noted above, numerous approaches can be taken in the writing of scenarios, ranging from a single person writing a description of a future situation to the use of a computer model that utilizes cross-impact analysis in the scenario-generating process. If the writer has never written a scenario, however, it may be helpful to begin with one of the four approaches described below (Morrison and Mecca 1989).

In the first approach, record each critical trend and event on a card (e.g., a 3x5), and place each card face up on a table. Giving special attention to trends and events that have a strong impact on organizational performance and mission and using the results of the cross-impact matrix, group the cards according to interrelationships in order to plot a plausible change of events. Utilizing some means to connect the cards (e.g., pipecleaners, string, etc.), show the network of interrelationships. Initially, concentrate on the "strong impact" events, but consider the interaction of all the identified trends and events. A guiding theme is, "If this happens, then what will probably occur, thus leading to what other developments?" Some events, of course, would increase the likelihood that one set of trends and events would occur while, at the same time, decreasing the chances that a different set would occur. After one chain of events is constructed, record the results on paper and repeat the grouping process until several possible chains of events have been developed and recorded.

Also highly visually oriented, the second approach utilizes the impact network technique to identify the potential impacts of key events on other events and trends and to describe how a particular alternative future could unfold. The value of impact networks lies in their simplicity and in their potential to identify quickly a wide range of impacts.

Although the impact network is a simple procedure that could easily be performed by one person, group involvement helps ensure valid and comprehensive results. Operationally, select an event identified as a strong actor from the cross-impact analysis and/or key indicator assessment and write it in the middle of a sheet of paper (or newsprint if it is developed by a group). Identify and record first-order impacts of the event and link them to the initial event by a single line (see Figure 7). When all first-order impacts have been identified, or when the space around the initial event is occupied, repeat the process for each first-order impact event to determine the possible effects if this event were to occur. Link second-order impact events to first order events by two lines. Repeat these steps for third and fourth-order impacts, or as far as the writer prefers. Typically, third-and fourth-order impacts are sufficient to explore all of the significant impacts of the initial events.

Feedback loops can be used to determine changes in the rate or intensity of a development resulting from a lower order event. For example, a fourth-order implication might increase or decrease an implication of a third or a second order impact event. The entire process is repeated for each strong actor.

If the writer uses the impact network technique, keep in mind a number of potential pitfalls. First, given the complexity of the resulting network, it is difficult to write alternative scenarios that clearly and concisely describe the pivotal events, intricate relationships, and transition process. Second, each scenario can be so idiosyncratic that it is difficult to develop strategic options that transcend individual scenarios. Overall, this approach is highly dependent upon the writer's creative and analytical abilities and requires careful execution to be effective.

The third alternative to writing scenarios is helpful in creating a range of alternative futures. First, develop a "most likely" future from the trend and event forecasts calculated in the initial planning sessions. The writer can produce variations of the "most likely'

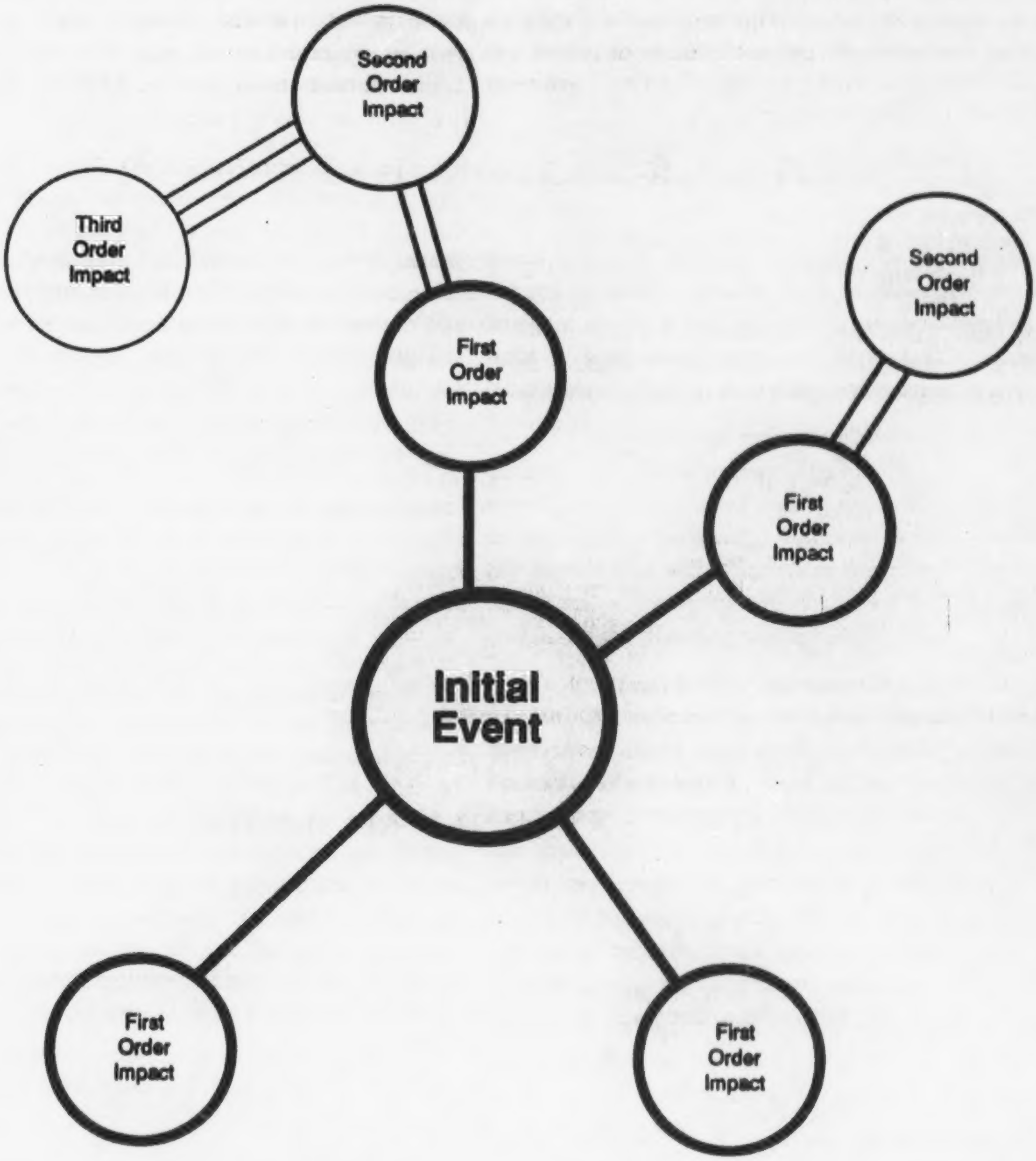
Second Order Impact
Third Order Impact
Second Order Impact
First Order Impact
First Order Impact
Initial Event
First Order Impact
First Order Impact

Figure 7. Impact Network

theme by using the cumulative probabilities and relationships specified in the cross-impact analysis. For example, specify an "unsettled" world as one where events are assumed to occur in the year in which their probability reaches the 60 percent level, a "turbulent" world where the level is 30 percent, a "chaotic" world when the level is 10 percent.

The final approach to generating scenarios is particularly effective if senior leaders wish to examine the implications of alternative futures on issues or decisions considered significant to the organization's future. First, identify the issues and decisions that the organization needs to examine. Then select the key decision factors that would affect each issue or decision. For example, if the question to be decided is whether to increase the proportion of the organization's budget allocated to continuing professional development, then a factor that may be considered in the scenario might be technological change requiring professional training.

Having selected the key decision factors, the next step is to identify the critical forces in the environment that affect them. These forces are represented by the list of critical trends and events the planning team developed earlier. The essential task at this point is to match identified trends and events with their appropriate decision factor. If a factor of demographic changes in the adult population was selected, specific trends related to migration patterns of retired people, educational attainment of adults, and so on, would be identified for incorporation into the scenario. At this point, the impact network technique could be used to graphically display the way the scenario unfolds.

The number of critical issues and decisions identified determines the number of scenarios to be developed. Hypothetically, a single scenario could be generated for each issue and decision, resulting in an unmanageable number of scenarios to analyze. However, the number of scenarios can be reduced to a manageable number by either (a) limiting the number of issues and decisions from which scenarios are generated to the four or five most important ones, or (b) clustering issues and decisions into issue/decision groups that are affected by similar key decision factors and therefore by the same set of trends and events.

Scenario writing is not an exercise in prophecy, but it is an attempt to envision a number of plausible alternative futures that, if they occurred, would require the organization to respond. Their purpose is to assist the planning team in developing strategic options for dealing with each alternative.

SECTION 3: MERGING INTERNAL WITH EXTERNAL ANALYSIS

As noted earlier, the purpose of developing alternative futures is analytical: what are the implications of these alternatives for the organization? Specifically, how may they be used to formulate strategic options and long-range plans? How may they be used to assess the impact of the strategic options on the organization's strengths and weaknesses?

First, carefully review all of the scenarios, looking for threats and opportunities and for actions that might be taken to avoid the one and capture the other. Of course, nothing in the scenarios should be viewed as a prediction of a future state of affairs. There is no single future "out there," waiting only to be discovered by a gifted analyst. Rather, there are an infinite number of possible alternative futures, each a possible result of interactions among human choice, institutional forces, natural processes, and unknowable chance events.

Forecasts should be examined using the following criteria (Boucher and Morrison, 1989):

1. Clarity. Are the object of the forecast and the forecast itself intelligible? Is it clear enough for practical purposes?

2. Intrinsic credibility. To what extent do the results "make sense" to planners? Do the results have "face validity"? To what extent are the basic forecasts mutually consistent?

3. Plausibility. To what extent are the results consistent with what the user knows about the world outside of the scenario and how this world *really* works or *may* work in the future?

4. Policy relevance. If the forecasts are believed to be valid, to what extent will they affect the successful achievement of the organization's mission?

5. Urgency. To what extent do the forecasts indicate that, if action is required, time must be spent fairly quickly to develop and implement the necessary changes?

6. Comparative Advantage. To what extent do the results provide a better foundation now for investigating policy options than other sources available *today* to the user? To what extent do they provide a better foundation now for future efforts in forecasting and policy planning?

7. Technical Quality. Was the process that produced the forecasts technically sound?

These criteria should be viewed as filters. To reject a forecast requires making an argument which shows that the item(s) in question cannot pass through all or most of these filters. A "good" forecast is one that survives such an assault; a "bad" forecast is one that does not.

It is likely that some forecasts will generate objections, primarily because they will cover familiar ground and inevitably leave some considerations out of account. Here one may expect to hear:

- "Of course! What else is new?"
- "How stupid! These analysts are wildly optimistic (or pessimistic or naive or . . .)"
- "How can the results be credible if such an obvious trend, event, cause, or consequence, was overlooked?"

It is important to recognize that forecasts are transitory and need constant adjustment if they are to be helpful in guiding thought and action. Therefore, such objections, far from undercutting the results, are in the spirit of advanced strategic forecasting and planning. The response is simple: If something important is missing, add it. If something unimportant is included, strike it. If something important is included but the forecast seems obvious, or the forecast seems highly counterintuitive, probe the underlying logic. If the results survive, use them. If not, fix them.

Apart from transitions, background explanations, and occasional details used to create the readability of the "most likely" scenario, every sentence will be germane to the future of the organization. Accordingly it needs to be scrubbed. It is important to identify and eliminate any parts of the scenario judged to be irrelevant. A primary objective of this exercise is to polish the long-range plan so that it covers the core set of environmental issues worth serious attention now or in the foreseeable future. For this reason, the planning team should have available forecasts of the same developments from other sources—internal studies, purchased services, and published reports. If the forecasts differ from source to source, decide which of them is more acceptable for now, and incorporate them in the plan. Rejected items should be set aside for later reference as a check on the adequacy of this screening. The environmental planning assumptions should then be revised in light of the scrubbed version, and can now be viewed as a high-level summary of this guidance. By the same token, all alternative scenarios should be scrubbed for plausibility. Does it seem reasonable that the future could materialize as projected in any of the alternative scenarios?

In light of the environmental planning assumptions, planning team members should review the list of performance indicators in each functional area and quickly make two judgmental forecasts of each, the first (actual or exploratory) describing the behavior of the indicators in the plan (specifying the time frame, e.g., fifteen years, thirty years, etc.), and the second (desire or normative) showing how the organization would prefer the indicators to behave. This may be accomplished by making a graph for each individual indicator, with time on the "x" axis and index values on the "y" axis. Let the desire, or normative, level for "today" equal 100. The actual level for today may be equal to, or higher or lower than, the desired level. For the next time period, make two forecasts: the actual level and the desired level. Remember all forecasts (both actual and desired) are made in terms of "today's" desired level. For objective indicators (i.e., trends with a clear numeric measure) the actual indicator levels may be used. In these cases the trend will be anchored with historical data showing the trend line in past years and respondents will be asked to give the desired and actual levels for "today" and the future years. For subjective indicators (i.e., trends without a clear measure) forecasting is more complex. For subjective indicators, set today's desired trend level at 100. Then request respondents to give the historical perspective today as well as a forecast for a future time period.

The adequacy of the exploratory forecasts of the performance indicators should be checked by rigorous examination. Revise forecasts as necessary, and keep track of the environmental factors in the scenario that produced specific changes, plus or minus, in these forecasts.

SECTION 4: DEVELOPING LONG-RANGE PLANS

Once you have "scrubbed" the "most likely" and alternative futures, you are ready to assist the senior leader of your organization to derive policy options that form the basis for long-range plans. In essence, you will assess the implications from a systematic and comprehensive external analysis for updating the internal analysis described earlier in this handbook.

In addition, evaluate each option against a set of criteria that provides a first-cut estimate of the policy's worth. Such criteria might include considerations of the dollar cost of implementation, availability of needed skills, availability of needed procedures or other arrangements, "time to payoff" estimates on each affected performance indicator, magnitude of payoff, the list of strengths and weaknesses of the organization identified earlier, and a comparison and analysis of those long-range plans being developed in other organizations. The result of this exercise would be a rank-ordered set of policy options. Next, ask participants to take each policy option in order and derive the plans necessary to implement that policy. This includes assigning managerial and budgetary responsibility for implementing the policies within the context of how well those options reflect planning for functional areas. In this way, you can link the alternative futures approach directly to conventional forms of analysis, in which selected policies are evaluated in the light of institutional missions, objectives, resources, capabilities, ongoing programs, and current strategies.

The long-range strategic planning process is an iterative one. The team must regard forecasts of trends, events, and performance indicators as drafts, and keep its intelligence (scanning) function operating to identify signals that will affect these forecasts. The environmental scanning system described in Appendix C will assist the planning team in doing this.

One final point needs to be made in closing this section. As indicated in the earlier discussion of the alternative futures approach to a planning model, the internal and external analyses can be merged without conducting cross-impact analyses or writing alternative scenarios by conducting the analysis of forecasted trends and events on performance indicators. The results of this analysis may then be used to revisit the analysis of mission, goals, objectives in order to derive updated goals, objectives, and strategies in the same fashion as described in the earlier part of this section.

A FINAL NOTE

The objective of the alternative futures approach to planning is to facilitate better decision-making, particularly in making decisions affecting the long-range future of institutions of higher education. Given that we live in an age where our concept of the overall mission and delivery of higher education has undergone substantial revision, we know that we will be faced with a future that will be unlike the past. The alternative futures approach to planning is a model for managing this uncertainty—identifying issues/concerns based upon experience and upon environmental scanning; structuring issues in the form of trends and events; forecasting the "most likely" future of the trends and events; assessing the interrelationships of trends, events, and performance indicators; and producing alternative scenarios of plausible futures that stimulate the development of viable, creative, and robust strategic options that can be incorporated into long-range plans. This approach differs from a traditional long-range planning approach based upon a single set of environmental assumptions about the future in recognizing that, although the future is a continuation of existing trends, it is subject to modification by events that have some probability of occurrence. Indeed, environmental uncertainty is caused by potential events. We cannot predict the future because uncertainty is a product of our incomplete understanding of trends, potential events and their interrelationships. However, by using the best available information we have, we can anticipate plausible alternative futures and thereby limit the number of unanticipated possibilities to the smallest possible set.

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APPENDIX A

GROUP FACILITATOR'S GUIDE

GROUP FACILITATOR'S GUIDE

As a facilitator, you are responsible both for the process and for the content. What skills do you need to be an effective facilitator? First, you need to reinforce your current skill in communication. Complete the handout in Figure A-1, a self-rating form. This is for you alone, not to share with anyone else, but to help you identify where you think you are in your level of communication skills.

Self Rating Form

Please indicate where you rate your own abilities as of now by circling one of the numbers on the rating scales below.

1. Ability to listen

1	2	3	4	5	6	7	8	9
weak		fair		moderately strong		quite strong		very strong

2. Ability to paraphrase accurately.

1 2 3 4 5 6 7 8 9

3. Ability to express feelings.

1 2 3 4 5 6 7 8 9

4. Ability to give non-judgmental feedback.

1 2 3 4 5 6 7 8 9

5. Ability to identify and relate to others' feelings.

1 2 3 4 5 6 7 8 9

6. Ability to give specific rather than general feedback.

1 2 3 4 5 6 7 8 9

7. Ability to communicate non-verbally.

1 2 3 4 5 6 7 8 9

8. Ability to communicate trust.

1 2 3 4 5 6 7 8 9

9. Ability to clarify.

1 2 3 4 5 6 7 8 9

Figure A-1: COMMUNICATION SKILLS

You need to understand the group. Figure A-2 classifies adult learning characteristics, indicating the preferences adults have as learners. Extroverts like to think as they go. They make decisions as others discuss; they will constantly come up with ideas, but it doesn't mean that's their final decision. It means that they are trying new ideas, whereas the introverts in your group will take the information, process it, and maybe about 10 or 15 minutes later come out with sound judgments. The "judgers" in your group will hear few facts and jump to conclusions because they are decision-makers. Perceivers in your group are open, spontaneous, flexible, and perhaps never come to a decision; they drive the judgers nuts. The "sensors" in your group are the persons who like the detailed information and the cookbook recipe type of thinking. The "big picture" people see global implications for anything and everything. Sensors and big picture adults sometimes have difficulty with each other because they have a different way of perceiving information.

As you conduct group planning exercises, you need to associate each task with data information experiences that group members have previously had. Otherwise they will be so fatigued that they will go into overload.

One of the basic skills each facilitator needs is how to listen. Listening is probably the most underdeveloped skill that we have. What are some of the strategies we can have as listeners? Maintain eye contact. If you are uncomfortable looking into a person's eyes, look at a point on their forehead just above their eyes. It makes the person feel as though you are paying attention to them. Do not stare too long as in our culture this will also make the person feel uncomfortable. Keep an open mind—do not be quick to judge. Listen between the lines (we can think four times as quickly as we can talk). Paraphrase and summarize back to the person what they said. Each of us has biases. Stop talking and start listening. Do not draw conclusions or make assumptions quickly. Again, keep an open mind. A number of listening strategies are interactive. Ask questions. Clarify information. Focus on key words and main points.

It is important to summarize periodically while your group is processing because it will help them to focus on what they achieve and what they need to continue doing in their task. When you state the objectives of any task, make sure that you are very clear and concise, and understood by everybody. In addition, focus on key words and main points, on what the person intends to say, not necessarily the words.

There are a number of barriers to listening. Our thinking rate is faster than our speaking rate. We can overcome this barrier by paraphrasing, summarizing, and organizing material. Another barrier is the presentation of irrelevant or excessive data. Here we must select relevant information around major issues. Such emotional reactions as prejudices and biases can be overcome by reflection and monitoring. Distractions, by the speaker or by others, can be overcome by concentration on content and issues. Figure A-3 contains a number of useful strategies for listening to others.

An important aspect of learning from a group is the process of feedback. Feedback is giving back information to an individual or individuals that could be useful to them. Such information can pertain to their behavior or their ideas.

EXTROVERT

sociability/action
jumps into activities before thinking through
prefers experience first
opportunity for discussion with others
experience/action before concepts/theories
prefers making oral presentations
may become overly involved, over-extended
may avoid long hours of concentrated and uninterrupted study

INTROVERT

prefers reflection
capable of long periods of reflection/planning before acting
seeks meaning of actions, relationships, principles
wants more time to work alone or in small groups
needs warning before change, time to integrate

JUDGING

arrives easily/quickly at decision
looks for enough data to draw conclusions
prefers work that's clearly scheduled
likes to know what's expected
may cease data gathering too soon
wants to know what will be held accountable

PERCEIVING

may have difficulty making decision
favors flexibility, spontaneity and excitement of something new
needs flexibility and freedom
schedules are meant to be changed
often seen as procrastinating

Figure A-2: ADULT LEARNING CHARACTERISTICS

It should be descriptive, specific, well timed, and positive. Figure A-4 contains a number of criteria for providing useful feedback. One of the ways that you can give feedback is to restate in your words what you think the speaker said to find if you understood what he or she had to say. Another is to summarize. This is really important for you as a facilitator because group participants may feel that they are in overload because they are dealing with so much data. Your responsibility as a facilitator is to move the group forward, not only just to process the information but to lead them toward the goals of specific tasks.

What are the criteria for asking or for giving questions? Ask one question at a time, make sure that it is simple and not overloaded and that you are not asking multiple questions within the same question. Ask open-ended questions in order for group members to give a response that they can then analyze and that will result in ideas being contributed. Rather than ask, why did you do this, ask what are the implications for X? Ask questions that will not lead to a yes or no answer. To give everyone an opportunity to participate, direct a question to a shy person if you feel that person would respond well to the question. Move over to a person who has not contributed when you are asking questions. That might encourage him or her to speak up. If a person's response to a question is completely off target, your response might be to say "That's very interesting, however,

LISTENING TO OTHERS

1. *STOP TALKING*— you can't listen while you are talking.
2. *EMPATHIZE WITH OTHER PEOPLE*—try to put yourself in their place so that you can see what they are trying to get at.
3. *ASK QUESTIONS*—when you don't understand, when you can't follow, then you want to show that you are listening. But don't ask questions that will embarrass anyone or show him or her up.
4. *DON'T GIVE UP TOO SOON*—don't interrupt; give the other person time to say what he or she has to say.
5. *CONCENTRATE ON WHAT THE OTHER PERSON IS SAYING*—actively focus your attention on his/her words, ideas, and attitude toward the subject.
6. *LOOK AT THE OTHER PERSON*—face, mouth, eyes, hands, will all help communicate with you. This helps you concentrate too. And it makes the other person feel that you are listening.
7. *SMILE AND GRUNT APPROPRIATELY*—but don't overdo it.
8. *LEAVE YOUR EMOTIONS BEHIND* (if you can)—try to push your worries, your fears, your problems, outside the conference room. They may prevent you from listening effectively.
9. *CONTROL YOUR ANGER*—try not to get angry at what is being said; your anger may prevent you from understanding the other person.

10 *GET RID OF DISTRACTIONS*—put down any papers or pencils you have in your hands; they may distract your attention.

11. *GET THE MAIN POINTS*—concentrate on the main ideas and not the illustrative material; examples, stories, and statistics are important, but usually are not the main points. Examine them only to see if they prove, support, or define the main ideas.
12. *SHARE RESPONSIBILITY FOR COMMUNICATION*—only part of the responsibility rests with the speaker; you as the listener have an important part. Try to understand, and if you don't, question the other person.
13. *REACT TO IDEAS, NOT TO THE PERSON*—don't let your reactions to other people influence your interpretation of what they say. Their ideas may be good even if you don't like them, or the way they look.
14. *DON'T ARGUE MENTALLY*—when you are trying to understand other people, it is a handicap to argue with them mentally as they are speaking. This sets up a barrier between you and the speakers.
15. *USE THE DIFFERENCE IN RATE*—you can listen faster than a person can talk, so use the rate difference to your advantage by trying to stay on the right track, anticipating what will be said, thinking back over what was said, etc. Note: speaking rate is about 100 to 150 words per minute; thinking rate is 250 to 500 words per minute.

16. *LISTEN FOR WHAT IS NOT SAID*—sometimes you can learn just as much by determining what the other person leaves out or avoids as you can by listening to what is said.

17. *LISTEN TO HOW SOMETHING IS SAID*—we frequently concentrate so hard on what is said that we miss the importance of the emotional reactions and attitudes related to what is said. The speaker's attitudes and emotional reactions may be more important that what is said in so many words.

18. *DON'T ANTAGONIZE THE SPEAKER*—you may cause the other person to conceal ideas, emotions, attitudes by antagonizing him or her in any of a number of ways: arguing, criticizing, taking notes, not taking notes, asking questions, not asking questions, etc. Try to judge and be aware of the effect you are having on the other person. Adapt to to that person.

19. *LISTEN FOR HIS OR HER PERSONALITY*—one of the best ways of learning about people is to listen to them talk; as they talk, you can begin to find out what they like and dislike, what their motivations are, or what their value system is.

20. *AVOID MAKING ASSUMPTIONS*—they can get you into trouble when trying to understand other people. Don't assume that they use words the same way you do; that they are avoiding looking you in the eye because they may be telling a lie; that they are trying to embarrass you by looking you in the eye: that they are distorting the truth because what they say doesn't agree with what you think; that they are lying because they have interpreted the facts differently than you have; that they are unethical because they are trying to win you over to their point of view; that they are angry because they are enthusiastic in presenting their views. Assumptions like these may turn out to be true; a bit more often they make understanding, agreement, or compromise more difficult.

21. *AVOID CLASSIFYING THE SPEAKER*—it has some value, but beware. Too frequently we classify a person as a type and then try to fit everything he or she says into what makes sense coming from that type of person. Say that the person is a Republican. Therefore, our perceptions of what he or she says or means are all shaded by whether we like or dislike Republicans. At times, it helps us to understand people if we know their politics, their religious beliefs, or their jobs, but people are unpredictable and rarely fit classifications perfectly.

22. *AVOID HASTY JUDGMENTS*—wait until all facts are in before making any judgments.

23. *RECOGNIZE YOUROWN PREJUDICE*—try to be aware of your own feeling toward the speaker, the subject, or the occasion,and allow for these prejudgments.

24. *IDENTIFY TYPE OR REASONING*—frequently it is difficult to sort out good and faulty reasoning when you are listening. Nevertheless, it is so important that listeners should make every effort to spot faulty reasoning when they hear it.

25. *EVALUATE FACTS AND EVIDENCE*—as you listen, try to identify not only the significance of the facts and evidence, but also their relationship to the argument.

Figure A-3: LISTENING TO OTHERS

we are looking for. . ." Or, That could be an interesting point, does anybody have a different perspective?" The principle is to trust the group; allow them to run their own group with you facilitating, being the catalyst and encouraging their leadership to go forward.

As a facilitator, you must be aware that we sometimes discount or "put other people down" without realizing what we are doing. What happens when you discount? You not only turn that person off, but you may turn off the other members of the group, thereby limiting their participation. Figure A-5 contains a number of "discounts" that inhibit rather than facilitate moving a group forward.

You must also observe the body language of group participants, their expressions, their movements, if they need a break, or if they are dominated by one person. Listen to the silence; listen between the lines. Listen for what people are not saying as well as what's being said. Use silence. If you can be comfortable with silence, the group may be doing important thinking, and they need to "go inside" to process it. Do not allow your anxiety to force you to speak.

Before your group session, it is advisable to plan multiple questions to lead the group forward. Periodically clarify and restate questions, acknowledge disagreement, encourage further thought on the topic. These strategies can move the discussion forward toward the outcomes you want to achieve. If somebody asks a question in a large group, you should rephrase the question or repeat the question to ensure that the other members of the group hear the question. If they don't hear the questions because of conversations going on around the room, they will just simply back out.

How are you going to deal with different types of behavior? The talkative, the shy, the disinterested, the person who attempts to dominate, the one who has his or her own agenda? Or, what will you do when the discussion absolutely drops or becomes sidetracked or people decide to have their own private conversations?

Suppose that a participant wants to quibble over trivial details and apparently loves to "get the other fellow's goat." First, do not lose your head, or allow others to do so. Question the individual to draw him or her out; then turn him or her over to the group. Prevent group members from getting personal; get the opinion of the majority.

For talkative individuals who take much more than their share of "air time," interrupt and ask others to comment. Make it difficult for them to get the floor; fail to recognize them. Don't look at them when you ask questions; deliberately turn to other participants for opinions. Establish a rule of the length of time for comments.

For shy participants, call on them by name for opinions, making sure that your initial questions are relatively "easy." Ask advice pertaining to some feature of the session; bring up subjects in which you know they are interested and have expertise.

Disinterested participants require direct questions. Ask their advice about the session, or the topic for the session. Quote statements they have made outside of the session.

"Feedback" is a way of helping people to consider changing their behavior. It is communication to a person or a group which gives them information about how they affect others. As in a guided missile system, feedback helps individuals to keep their behavior on target, thus enabling them to achieve their goals. It is a corrective mechanism for the individual who wants to learn how well his or her behavior matches the intentions, and it is a means for establishing and clarifying one's identity, for answering "Who am I?"

1. It is descriptive rather than evaluative. Describing one's own reaction to behavior leaves the individual free to use the information or to use it as he or she sees fit. Avoiding evaluative language reduces the need for the individual to react defensively.

2. It is specific rather than general. To be told that one is "dominating" will probably not be as useful as to be told that, "Just now when we were deciding the issue, you did not listen to what others said, and I felt forced to accept your arguments or face attack from you."

3. It takes into account the needs of both the receiver and giver. Feedback can be destructive when it serves only one's own needs and fails to consider the needs of the person on the receiving end.

4. It is directed toward behavior which the receiver can do something to change. Frustration is only increased when a person is reminded of some shortcoming over which he or she has no control.

5. It is solicited by the receiver, rather than imposed by the observer. Feedback is most useful when the receiver formulates the kind of behaviors to be observed, and questions to be answered. Thus, the individual obtains desired information about behaviors and their impact.

6. It is well-timed. In general, feedback is most useful at the earliest opportunity after the given behavior occurs (depending, of course, on the person's readiness to hear it, support available from others, etc.)

7. It is checked to insure clear communication. One way of doing this is to have the receiver try to rephrase the feedback to see if it corresponds to what the sender had in mind.

8. When feedback is given in a training group, both giver and receiver have the opportunity to check with others in the group to assess the accuracy of the feedback. Is this one person's impression, or an impression shared by others?

Figure A-4: CRITERIA FOR USEFUL FEEDBACK

1. "Yes, but..."
2. "No, that won't work."
3. "I don't like that idea."
4. "Really?" (when the tone implies doubt)
5. Cutting someone off.
6. Walking away in the middle of a conversation/being dismissed
7. "I have no faith in that idea/conclusion."
8. Being ignored.
9. Lack of further inquiry.
10. "Will it sell?" or "It's not profitable; it won't sell."
11. "That's stupid" or a variety of other terms saying the same thing.
12. "I would expect more of you" or "You can do better"
13. "You should have known better."
14. "I trust this is leading somewhere?" or "Does this apply to something?"
15. Smirking (facial)
16. "Why are you asking this?" (The tone of the "why" implies doubt, not curiosity.)

Figure A-5: FREQUENTLY EXPERIENCED DISCOUNTS

If the discussion becomes sidetracked, summarize the relevant discussion. Restate the problem. Question the group as to what this discussion has to do with the issue under consideration. Head off the rambler by securing a statement from level-headed thinkers. Ask the group to postpone side issues until the topic under discussion is completed.

If two or more participants have a side discussion, direct a question to one of the participants. Or you can stop and call the attention of the group to the side discussion.

Figure A-6 contains a number of strategies on facilitating discussions. Good luck!

1. Observe the body language of the participants; their expressions; their movements; the extent of involvement in the discussion by as many participants as possible in the group.
2. Require a basis in fact and information to accompany statements.
3. Encourage expressions of feelings and attitudes, but establish patterns of supporting ideas with data.
4. Periodically pause and ask for clarifications of definitions and assumptions.
5. After clearly establishing the theory, seek out examples from the participants' experiences that would affirm or deny the issues under discussion.
6. Actively preserve order by encouraging low participants to respond and requesting discussion hoarders to wait until others have had an opportunity speak before they comment (again).
7. Check out reasons why some participants may be avoiding responding and others may be playing out power needs.
8. Be cognizant of the nature and types of leadership and remain impartial as members of the group vie for control.
9. Listen carefully and respect all views.
10. Guide the discussion by following an outline or plan, periodically clarifying and restating, asking questions that move the discussion forward and ending by stressing the agreement, acknowledging the disagreement, and encouraging further thought on the topic.

Figure A-6: STRATEGIES ON FACILITATING DISCUSSIONS

APPENDIX B

SOUTHWEST STATE UNIVERSITY R1 DELPHI

Southwest State University
ED QUEST Affirmative Action Project

Evaluation of Trends

In this section you are to forecast the level of each trend and evaluate the impact of that trend on SWSU's affirmative action program should the trend materialize as you predict. In forecasting the level of the trend, assume that the present level is 100. Then estimate the most likely level of the trend five years from now and ten years from now. A trend's level can increase, decrease, or remain stable from one point to the next.

After estimating the level of the trend, indicate how important you feel this trend may be to the affirmative action program. For the purpose of this survey, the focus of affirmative action is on SWSU's recruitment and retention of women and minority faculty, staff, and students. 'Minority' is defined as including Asian/Pacific Islanders, Blacks, Hispanics, and Native Americans. Recognizing that a trend may vary in its effect on women or minorities and faculty, staff, or students, provide a single estimate of the greatest impact of the trend on any component of affirmative action. Use a scale of 0 to 10 where '0' means that this trend should have no significant impact on affirmative action, and '10' means that this trend would have the highest possible impact on SWSSU's affirmative action program.

Move quickly through the survey. Do not labor over any single answer. Your first impression is likely to be your best. If you have no knowledge or opinon on an item, you may leave it blank.

The first item has been filled in as a sample response. The respondent's forecast of the five year trend level of the percent of states with an elected woman governor predicts an increase of 25% over the current level. The ten year trend level predicts a drop from the five year level but is still 10% higher than the current level of 100. The respondent considers that this trend will have a moderate impact on affirmative action at Southwest State University.

TREND STATEMENTS:	5yr	10yr	Impact
SAMPLE TREND The percentage of states with an elected woman governor.	125	110	5
National 1. Percent of U.S. population over age 65.			
2. Percent of U.S. students pursuing graduate degrees in engineering and business who are women.			
3. Percent of U.S. students pursuing graduate degrees in engineering and business who are minorities.			
4. Annual U.S. business relocation rate from frostbelt to sunbelt.			
5. Percent of jobs in the U.S. which require a bachelor's degree .			
6. Percent of U.S. minorities with graduate degrees choosing jobs outside of higher education.			
7. Percent of U.S. women with graduate degrees choosing jobs outside of higher education.			

TREND STATEMENTS:	5yr	10yr	Impact
8. Competitiveness of U.S. salaries in higher education with other employment opportunities.			
9. Percent of workers in the U.S. continuing to work past age 65.			
10. U.S. minority birthrate.			
11. U.S. non-Hispanic White birthrate.			
12. Rate of unemployment in the U.S..			
13. Employment positions in the U.S. requiring computer literacy.			
14. Percent of minority high school grads in the U.S. who are computer literate.			
15. Percent of entry level jobs in the U.S. requiring a specialized college education rather than a liberal arts education.			
16. Investment of business and industry in college-level, in-house training programs in the U.S..			
17. Rate at which the cost of higher education increases in the U.S..			
18. Extent to which computer literacy is required for graduation from higher education institutions in the U.S..			
19. Level of federal support of student financial aid.			
20. Level of U.S. business and industry support of student financial aid .			
21. Level of federal funding of bilingual education.			
22. Availability of bilingual teachers in the U.S.			
23. Availability of minority faculty in the U.S.			
24. Availability of women faculty in the U.S.			
25. U.S. hourly minimum wage rate.			
26. The percent of minorities in supervisory positions in business and industry in the U.S..			
27. The percent of women in supervisory positions in business and industry in the U.S.			
28. Percent of women over age 25 entering college.			
29. Percent of middle management positions eliminated in U.S. businesses.			

TREND STATEMENTS:	5yr	10yr	Impact
State 30. Median income for full-time minority workers.			
31. Median income for full-time women workers.			
32. Number of legal suits in the state claiming discriminatory practices in hiring and promotions.			
33. Percent of minority teens in the state entering the work force rather than continuing their education.			
34. Percent of women in the state in the workforce.			
35. Level of coordination between public schools and postsecondary institutions to improve minority student achievement.			
36. Percent of minority high school grads not meeting the admission requirements for the state's universities.			
37. Percent of minority elementary/high school teachers.			
38. Percent of minority students who receive financial aid for postsecondary education.			
39. The legislature's support for raising the standards of higher education.			
40. The legislature's support for minority access to higher education.			
41. Percent increase in the state's financial support of public higher education.			
42. Availability of minorities for management positions at all levels in the state's universities.			
43. Availability of women for management positions at all levels in the state's universities.			
44. Percent increase in new jobs created in the state.			
Metrocity County 45. Percent of minority high school grads in Metrocity County entering the military service.			
46. Percent of available jobs in Metrocity County that are unskilled positions.			
47. Availability of child-care as a benefit at places of work in MetrocityCounty.			
48. Minority households living below poverty level in Metrocity County.			

TREND STATEMENTS:	5yr	10yr	Impact
49. Woman-head-of-households living below poverty level in MetrocityCounty.			
50. Annual inflation rate in MetrocityCounty.			
51. Median resale value of homes in Metrocity County.			
52. Percent of minority high school grads in Metrocity County enrolling in community colleges.			
53. Percent of minority high school grads in Metrocity County enrolling in a state university.			
54. Percent of elementary schools in Metrocity County with over one-third of the enrollment composed of minority youth.			

EVENTS

In this section you are to make a judgment about the probability of each event occurring five years from now and ten years from now. Use any number between 0 to 100 where '0' means there is no likelihood of the event occurring, and '100' means that the event is certain to occur.

After estimating the probability of the event occurring, indicate what impact you feel this event may have on SWSU's affirmative action program. Use a scale of 0 to 10 where '0' means that this event should have no significant impact on affirmative action and '10' means that this event would have the highest possible impact, either positive or negative, on affirmative action.

Some events can occur at any time but other events can not occur until some given time in the future. For instance a natural disaster has the potential for occurring at any time but a change in some elected officials can occur only once every four years. In the column labeled '1st YR', estimate the number of years until the event first becomes possible.

In the first example given below, the respondent estimates the probability of an accident at the Palo Verde nuclear plant during the next five years at 5%. The probability of the event occurring in the next ten years is estimated at 10%. If this event occurs, the respondent believes that the impact on ASU's affirmative action will be low. The first year this event becomes possible to occur is estimated at '0' indicating that the event could occur any time in the future.

In the second example given below, the probability that the U.S. will elect a minority president during the next five years is estimated at 10%. The probability of the event occurring in the next ten years is estimated at 25%. If this event occurs, the impact on SWSU's affirmative action will be high, but the event has no possibility of occuring until four years from now.

EVENT STATEMENTS	5yr	10yr	Impact	1st yr
SAMPLE EVENT A major accident occurs at the Palo Verde nuclear plant.	5	10	2	0
SAMPLE EVENT The U.S. elects a minority president.	10	25	9	4
1. The state passes legislation making English the official language.				
2. A major depression occurs.				
3. The U.S. experiences another significant stock market crash.				
4. Home computer-based interactive communication is widely used in the county for training and education.				
5. The state's elementary/secondary public schools adopt a 48 week school year. (1988: 35 weeks)				
6. A major Metrocity electronics firm establishes its own accredited baccalaureate-granting engineering program for its employees.				
7. Large private corporations establish lucrative student financial aid packages with follow-on employment obligations.				
8. The state legislature passes legislation tying funding increases in education to educational outcomes.				
9. A balanced budget amendment to the U.S. constitution is passed.				

EVENT STATEMENTS:	5yr	10yr	Impact	1st yr
10. An effective morning-after birth control pill is available to teenage girls.				
11. U.S. migration patterns shift away from sun-belt cities.				
12. The retirement age for Social Security benefits is raised to age 70.				
13. A medication is developed that can increase memory recall.				
14. The federal government requires that students achieve minimum academic standards in high school to be eligible for federal financial aid in college.				
15. The state board of regents hires a Hispanic president for one of the state's universities.				
16. Metrocity County Community College District develops a Bachelor of Technology program.				
17. Gang activity in Metrocity rises to the 1988 level in Los Angeles.				
18. Penalties for drug trafficking are made more severe.				
19. The federal government legislates a two-year compulsory service for youths between age 18 and 24, with options such as military service, VISTA, and the Peace Corps.				
20. The U.S. significantly raises annual immigration quotas.				
21. The state legislature provides adequate financial support for SWSU to become a Research I institution.				
22. A major financial collapse causes Brazil or Mexico to default on loans to U.S. banks.				
23. Federal legislation is passed which legalizes recreational drugs.				
24. Another communist regime takes power in Central America.				
25. A fossil fuel crisis of at least 1973-74 proportions hits the U.S.				
26. A rapid transit system is built in Metrocity covering at least a 25 mile radius.				
27. A major drought occurs impacting the Mud River watershed.				
28. A major earthquake (+7.5 Richter Scale) occurs in California.				

EVENT STATEMENTS:	5yr	10yr	Impact	1st yr
29. Starting teacher salaries are comparable with salaries in business and industry.				
30. The state board of regents adopts a chancellor system of governance.				
31. Congress revokes the education benefits for veterans.				
32. All non-military federal government student financial aid funds are cut by at least 50%.				
33. U.S. income tax laws are revised to allow itemized deductions for the costs of a college education.				
34. A major regional conflict (e.g., Middle East) involving U.S. troops erupts.				
35. The U.S. experiences a dramatic flood of refugees from Mexico, Central, and/or South America.				
36. Most universities require that students successfully complete a junior passing exam before advancing to upper division courses.				
37. The state passes legislation requiring complete course-by-course articulation and transfer from two-year to four-year colleges.				
38. The basis for determining salary levels in state positions is related to comparable worth.				
39. SWSU establishes a second branch campus in the east valley.				
40. SWSU West becomes an independent institution.				
41. The state is selected as the site for the supercollider project.				
42. Enrollment caps are implemented in the state university system.				
43. The next state university branch campus is not built by SWSU.				

When you have finished please do the following:

Reflect for a moment on the entire set of trends. Have we left out any possible future trends that you believe will have a significant impact on SWSU's affirmative action program? If so, use the space provided below to write in these missing items. Also fill in your estimate of the trend level as well as the impact on affirmative action.

Reflect for a moment on the entire set of events. Have we left out any possible future events that you believe will have a significant impact on SWSU's affirmative action program? If so, use the space provided below to write in these missing items. Also fill in your estimate of the event probability, the impact on affirmative action, and the zero point.

EVENT STATEMENTS:	**5yr**	**10yr**	**Impact**	
			Pos.	Neg.

EVENT STATEMENTS:	5yr	10yr	Impact	
			Pos.	Neg.

APPENDIX C

INSTITUTIONALIZING ENVIRONMENTAL SCANNING IN THE STRATEGIC PLANNING PROCESS

INSTITUTIONALIZING ENVIRONMENTAL SCANNING IN THE STRATEGIC PLANNING PROCESS

The alternative futures approach to strategic planning model is designed to facilitate a relatively quick analysis of the external environment and to enable the organization to clarify its future, define its options and "get out in front" of anticipated changes in the environment. However, for the organization to develop the capacity to deal proactively with its environment, the process must be institutionalized. In other words, an on-going environmental scanning system must be created to supplement and continuously update the set of critical trends and events developed in the initial process.

Morrison (1987) has described how to develop an on-going environmental scanning program and the initial steps an organization may take in developing such a program. These steps include developing a program structure and a comprehensive taxonomy with an electronic filing system, identifying and assigning information resources, securing scanners, and training scanners and abstractors.

GETTING STARTED

The environmental scanning notebook (see Appendix D) consists of a literature review of readily available information resources . However, the extent of the review is dependent upon the amount of time that the facilitator has available. An on-going environmental scanning program overcomes this dependency by having a number of people regularly review information sources—the more scanners, the greater the number of information resources that can be used. Therefore, one of the first steps in institutionalizing an environmental scanning system is to recruit volunteers to perform scanning.

One approach that has been successfully used to recruit scanners consists of offering a half-day planning workshop focusing on strategic planning models. This would include the alternative futures approach model and would focus on the use of environmental scanning information in planning activities for the organization and for its constituent parts, including program planning within individual departments or functional areas. A major part of the workshop would be an exercise in the identification and evaluation of critical trends and emerging issues. This exercise would enable participants to bring their individual knowledge of the external environment to a discussion, which could result in expanding the event and trend set developed during the initial phases of the planning process. Moreover, this workshop should generate enthusiasm for establishing a system for systematically seeking indications of change in the external environment.

DEVELOPING PROGRAM STRUCTURE

The structure of the system does not have to be elaborate. The planning team facilitator could chair the scanning committee, consisting of the planning team members and other interested individuals. In addition, the facilitator is responsible for assigning information sources to each scanner and is responsible for collecting and filing scanning abstracts. Periodically, perhaps bimonthly or quarterly, the planning team meets as a scanning evaluation committee to sort, sift, and evaluate the significance of the abstracts. It is reasonable to anticipate from 100-200 abstracts per quarter, depending to some extent on the number of individuals employed in scanning. These meetings will require the team to summarize by sector (i.e., social, technological, economic, and political) all abstracts produced during the quarter. This activity will take one work week by team members. An alternative approach would be for the facilitator to categorize the abstracts by sector and assign each team member the responsibility for reviewing all abstracts in that sector. Regardless of which approach is used, a written summary (in essence a preliminary analysis) by sector should be prepared and distributed prior to the staff meting. Discussion and analyses at this meeting will take four hours. Each meeting concludes with additions to the trend or event set and perhaps with updated information on trends and events already in the set. The facilitator has the responsibility of documenting the discussion and preparing the report. (See Simpson, McGinty, & Morrison, 1987 for a discussion of how the Georgia Center for Continuing Education structured its environmental scanning process.)

DEVELOPING THE SCANNING TAXONOMY

The trends and events identified in the initial planning activity and in the workshop for volunteer scanners may be used to develop the beginnings of a scanning taxonomy, so that every possible item resulting from scanning has a logical place to be classified. The taxonomy depicted in Figure C-1 has two objectives: (a) to provide a comprehensive set of categories within which related materials can be filed, and (b) to provide a numbering method for every piece of information collected, as well as for the specific trends and events identified (or created) within these categories. Note that there are six categories in the taxonomy—demographic, social, technological, economic, political, and environmental. Their relationship to the organization is classified in both external (international, national, regional) and internal (i.e., education) categories, and each resulting "cell" is numbered. For example, an important discussion of regional migration would be assigned to Category 1.3, while a change in the regulations defining eligibility for federally funded student financial aid would be assigned to Category 5.2.

This numbering system may then be used in the next Delphi conducted by the planning team. Each question in the Delphi can be numbered according to its classification in the taxonomy, facilitating quick retrieval of the source document from which the trend or event was drawn and enabling a quick update of the historical information the team may wish to add to the Delphi question in succeeding years. Boucher and Morrison (1989) recommend refining this system by adding three digits to the category numbers. The third digit would be assigned using the following code:

1=a trend, including historical or forecasted data

2 =an event that the author of the source document had identified as having some chance of occurring in the future

3 =a policy proposal or suggestion offered in the source document as a means of improving some condition, current or prospective

4 =a miscellaneous piece of information, not one of the preceding types, but nevertheless of potential value in the Delphi, either now or next year

The last two digits would be assigned in serial order (00 - 99) to each item entered into the taxonomy. Thus, an item coded 3.4.2.02 could be identified as the second event that concerned a specific potential development in educational technology.

ORGANIZING THE FILES ELECTRONICALLY

Utilizing computers, electronic files facilitate review, referral and updating. Moreover, through using an electronic filing system, it is easier to develop consortium relationships with similar organizations or with organizations in the same geographic area. There are a number of electronic bibliographic data base software programs available commercially. *Pro-Cite*, a software program developed by Personal Bibliographic Software, has standard workforms for each data entry into variable-length fields and records, authority lists to standardize names, bibliographic titles, or key words, and a search capability using Boolean logic for quick retrieval. One reason for using this program is that it

CATEGORY OF DEVELOPMENT	BEARING ON			
	EXTERNAL			INTERNAL
	International	National	Regional	
1. Demographic	1.1	1.2	1.3	1.4
2. Social	2.1	2.2	2.3	2.4
3. Technological	3.1	3.2	3.3	3.4
4. Economic	4.1	4.2	4.3	4.4
5. Political, Legal and Regulatory	5.1	5.2	5.3	5.4
6. Environmental	6.1	6.2	6.3	6.4

FIGURE C-1

ENVIRONMENTAL SCANNING TAXONOMY

is available in both Macintosh and PC/MS DOS formats, thereby allowing data exchange via modem, over a network, or through a mainframe. In addition, Personal Bibliographic Software has developed two complementary programs, *Pro-Search* and *Bibliolinks*, thereby allowing retrieval of information from a major data base like Dialogue, which can be downloaded to disk, and transferred into an appropriate *Pro-Cite* workform (journal, book, newspaper article, etc.). It is also possible to use a standard data-base program. For example, the scanning program at the University of Minnesota uses dBase II.

IDENTIFYING LITERATURE SOURCES AND DATA BASES

The important criterion for literature selection is diversity. Information should be obtained from newspapers, magazines, dissertations, journals, TV and radio programs and conferences.

A comprehensive list should include the following:

(a) Newspapers—*The New York Times, The Wall Street Journal, The Miami Herald, The Chicago Tribune, The Los Angeles Times, The Christian Science Monitor and USA Today*

(b) Educational Literature—*Chronicle of Higher Education and Education Week*

(c) Social/Demographic Literature—*American Demographics, Public Opinion*

(d) Technological Literature—*High Technology, Datamation, BYTE, Computer World, Discover, and InfoWorld*

(e) Economic Literature—*Business Week, The Economist, Fortune, Forbes, Money, Inc. and The Monthly Labor Review*

(f) Political Literature—*New Republic, The National Review, The National Journal and Mother Jones*

(g) General Interest Literature *Vital Speeches of the Day, Across the Board, Naisbitt Trend Letter, Kiplinger Washington Letter, Time, Newsweek, U.S. News and World Report, and The Futurist*

In addition to commercial resources, a number of government agencies publish trend data, many times at little or no cost. For example, GAO Reports may be obtained from the U.S. General Accounting Office, Document Handling and Information Services Facility, P. O. Box 6015, Gaithersburg, MD 20877, phone 202 275-6241. NCES reports are available from NCES, Washington, D.C. Periodic Rand reports may be obtained from The Rand Corporation, Publications Department, 1700 Main Street, P.O. Box 2138, Santa Monica, CA 90406-2138.

Morrison, Renfro, and Boucher (1984) identify a number of other information resources, including those used by the ACLI Trend Analysis Program and the ERIC Clearinghouse on Higher Education.

ASSIGNING SCANNERS INFORMATION RESOURCES

Assigning scanners specific materials for regular review and analysis provides a measure of confidence that most "blips" on the radar screen will be spotted. A suggested procedure for assigning information resources is first to ascertain what materials, conferences, and so forth, are regularly read or attended by scanners. The list of materials regularly read by scanners should be compared to the list of important information resources identified in the above activity. If at all possible, scanners should be assigned material they already regularly review. It is likely that there will be material that is not regularly read; in such cases, it is recommended that scanners be asked to volunteer to read those resources. Moreover, the scanning committee chair should institute a procedure to "spot check" how well the information resources are being reviewed. If there are many scanners, it is advisable to build in redundancy by having two or more scanners review the same information resource.

TRAINING SCANNERS

Scanners need orientation and training in scanning and in reporting information via abstracts. Scanners should keep in mind that they are scanning to anticipate social, economic, technological and legislative/regulatory changes in order to facilitate planning and policy formulation; therefore, they should seek signals that indicate departures from expected futures. Specifically, when scanning their assigned materials, they should ask themselves if the items:

1. represent events, trends, developments, or ideas never before encountered.
2. contradict previous assumptions or beliefs about what seems to be happening.
3. represent new twists to old arguments.
4. can be linked to other abstracts previously written or seen.
5. discuss new patents, inventions, and/or research results.
6. have implications for the long-range program or management of the organization.
7. contain polls or forecasts.

TRAINING ABSTRACTORS

It would be ideal if scanners would also serve as abstractors. However, one or two student assistants may need to be employed for this task. Irrespective of who does the abstracting, all scanners and institutional research staff personnel should be trained to write abstracts.

The lead sentence of an abstract should be a response to this question: "If I had only a few minutes to describe this article to a friend, what would I say?" What is the most important idea or event that indicates change? The response to this question should be followed by a one paragraph explanation. Whenever possible, statistical data should be included. The summary should be limited to no more than one-half page of single-spaced, typewritten copy.

Each abstract should have an implications section responding to the question, "How will the information in this article affect this organization's programs or management?" The author should include a list of those emerging issues suggested by the article, a description of future events occurring as a result of the trend identified by the article, and/or an identification of issue stakeholders if they are not listed in the article.

Speculation about implications is a part of the scanning and abstracting process. Here the abstractor tries to determine an item's potential for affecting other facets of the social environment and/or the organization. There are no "right" answers. Note, however, that some articles may offer no implications that are immediately apparent. The scanning committee, with the benefit of related abstracts from other scanners, may be able to detect implications that a single monitor cannot.

CONDUCTING A SCANNING COMMITTEE MEETING

A scanning committee meeting should be held every two to three months to handle the approximately 70-100 abstracts that would probably come in during that period. Several approaches could be used to prepare for a scanning committee meeting. For example, at the Georgia Center for Continuing Education, the chair segregates abstracts according to subject area (i.e., all those concerning office automation go into one pile, employee compensation go into another, and those difficult to assign, into a miscellaneous pile). Each member of the committee is assigned a particular packet of abstracts to review in detail. All members read the entire selection of abstracts received, but are requested to come to the meeting with a list of trends and potential issues derived from those abstracts in their packet that are new. They are expected to examine how these trends and issues relate to or conflict with other trend areas identified previously (Morrison, Simpson and McGinty, 1987).

An alternative approach is for each member to review all scanning abstracts and come to the meeting prepared to sort them into three categories: "winners," "losers," and "middle-of-the-roaders." Irrespective of the approach used, the meeting itself may last from two to three hours, including a round robin, with each person reporting his/her subject area, and a free-for-all discussion. The end result should be a list and brief description of 15 or so trends, possible events, and emerging issues that appear important to consider in the annual planning exercise.

USING SCANNING NEWSLETTERS

A scanning newsletter can serve to bring important new trends and events to the attention of all members of the organization and, at the same time, provide recognition for the efforts of volunteer scanners. Certainly the trends and events identified between planning sessions in scanning committee meetings should be included in the newsletter. This newsletter could be a "stand alone" or could be included as an insert in one of the regularly published organizational newsletters. The newsletter should have a logo, be "jazzy," printed on colored paper, and have special boxes labeled, "Wild Speculations." The important point is to avoid anointing speculations, but to recognize that the purpose of the newsletter is to print items that have implications for the organization.

USING ISSUE BRIEFS

After reviewing abstracts at the scanning committee meeting, the committee should be able to identify those 15-25 or so trends, events, and emerging issues that are important to monitor. An in-depth analysis of a particular item may be needed. The CEO may wish to commission an issue brief on the item, to be written by a member of the planning team, an administrative staffer, a staff member in the research and evaluation office, or a faculty member. A recommended format for an issue brief is:

- What is the issue?
- What do we know about it?
- What are the implications?
- What should the organization do?

CONCLUSION

The alternative futures approach to planning is a systematic, intensive, and relatively inexpensive way to focus quickly on strategic areas for which more detailed planning and analysis would be beneficial. Through participating in the process, senior leaders develop a shared understanding of high priority issues and a view of the dynamics of the changing environment of the organization. Participating in the process facilitates team building, focuses attention of decision makers upon the longer-term future, and assures that the strategic options developed from the process have the authority from top management.

To provide a continuous, objective, complete, and detailed analysis of the external environment, the organization should develop a systematic environmental scanning and forecasting system. If important information about the external environment is not available to the planning team, or if this information is not given an opportunity to be articulated, it will not be included in important deliberations. Consequently, the results of the planning process will suffer. However, with an ongoing environmental scanning system, the quality of the information that goes into the environmental scanning notebook will be greatly improved, thereby enhancing the quality of the analysis of the planning team. As importantly, since members of the planning team should be involved as scanners and as members of the scanning committee on a continuous basis, they will increase their orientation to the future and will become more proficient participants in the yearly planning exercise. Incorporating a systematic environmental scanning system process should enable decision makers to anticipate what is happening in the state, region, nation, and world, and, correspondingly, to plan more effectively.

APPENDIX D

ENVIRONMENTAL SCANNING NOTEBOOK

ENVIRONMENTAL SCANNING NOTEBOOK

Some Possible Trends That May Impact Education

The purpose of this notebook is to stimulate your thinking about the future. The information included in the notebook will assist you in identifying possible trends and events that may impact the future direction of the organization.

The articles, charts, graphs and lists are only meant to suggest possible trends and events. Each planning team member is encouraged to identify other trends and events that represent important changes in the organization's environment.

NOTE: only a small sample of possible items are included in this example. Much of the material gathered and assembled for this notebook will be obtained from copywrited materials. For this reason, the author could not include as wide and extensive a sample as would be contained in a complete notebook that would be used by a specific planning team. With an established environmental scanning process ongoing in an organization it is not difficult to acquire a wealth of material for the notebook.

SOCIAL

DEMOGRAPHIC ISSUES FOR THE 1990s

The following emerging workplace and family issues will be watched closely by demographers over the next decade and beyond:

- Young workers will become scarce, and shortages of entry-level workers will become more widespread. Employers will have to pay higher entry-level wages to attract skilled workers and devote more effort to train and develop the less-skilled to be job-ready.
- Shortages of qualified workers may coexist with a surplus of unqualified job seekers, especially among minorities who have not fared well educationally. Poverty among children curtails educational attainment. There is growing awareness that when today's first-graders reach adulthood they will compete within a global labor market and will need intellectual skills and levels of education and literacy never demanded of their predecessors. Mounting concerns with economic competitiveness will therefore intensify the national focus on childhood poverty and its effect on future work-force quality.
- Employment options will greatly expand for older persons who want to work. The trend toward utilizing more-experienced retired workers in traditionally entry-level jobs will increase and may ease the burden on employers to provide remedial education in their training programs.
- The schedules of American workers will grow more diverse as alternatives to the standard 40-hour, five-day workweek emerge. Parents with preschoolers, semiretired workers, and others will establish themselves within various labor markets according to work schedules they are able to accommodate in their personal lives.
- Employers will gradually offer a broader array of policies promoting a "family friendly" workplace: child care, elder care, emergency "sick child" programs, etc.
- "Two-generation geriatric" families will increase. The rise in life expectancy of the elderly means that more of the "young elderly" (persons in their 60s and early 70s) will themselves have surviving parents at extreme elderly ages. Two-generation geriatric families may have both parents and children who require care.
- "Binational" families will increase. Undocumented immigrants often form families and households that also include children who are U.S. citizens by birth. The significant presence of such binational families in certain municipalities (e.g., Los Angeles) will complicate the issue of access to social services and the definition of a "resident."
- Racial and ethnic diversification will expand the number of cities in which no one racial or ethnic group constitutes the "majority." Where such "multiple minority" cities now exist — in California and New York, for example — they foreshadow the kinds of political changes that evolve as pluralities replace majorities.
- The consequences of population aging will differ widely from place to place. Certain states, such as Arizona, receive influxes of retirees who are above average in health and prosperity; others, such as Mississippi, experience prolonged outflows of young adults, which leave behind older (often poorer) retirees who gradually "age in place."

— Peter A. Morrison

Though the results of the Cross survey seem a solid indication of the country's continued commitment to handwriting in an electronic age, it could also be viewed as just another illustration of the great American proclivity for saying one thing while doing another. A strong vote of confidence in penmanship notwithstanding, only 58 percent of respondents with children say they encourage their youngsters to practice their handwriting, and only 57 percent encourage the kids to handwrite letters or notes to friends and relatives. ●

DEMOGRAPHIC FORECASTS

by Thomas Exter

SLIDING COLLEGE ENROLLMENT

College administrators discovered marketing when they realized demographics was their destiny. They saw the coming decline in traditional college-aged students and started to redesign their programs to attract students of all ages. Public colleges and universities, which account for 77 percent of all undergraduate enrollments, watched their enrollments peak in 1983 at 6.3 million—19 years after the end of the baby boom in 1964. By 1987, enrollments had declined 3 percent, to 6.1 million. Since the number of high school graduates fell by 6.5 percent during that time, college administrators must be doing something right.

Still, the demographic pressure is relentless. Projections of undergraduate enrollment in public colleges and universities show an additional 3.2 percent drop from 1987 to 1995, with enrollments falling below 5.9 million. Four-year institutions should lose 3.1 percent of their estimated 1987 enrollments, while two-year institutions are projected to lose 3.4 percent. About six in ten undergraduates in public institutions attend four-year schools.

Nineteen years after the end of the "baby bust"—a 12-year period of declining births ending in 1976—college enrollments should begin to recover some lost ground. Enrollments in 1996 and 1997 are expected to show slight increases from prior years.

Public institutions by necessity rely on projections of state and local populations for enrollment planning. The projections presented here illustrate probable national trends that point to some relief from demographic pressure late in the 1990s. If the new college marketing programs remain effective through this lean period, administrators can turn their attention to replacing college professors, who will begin to retire in droves, by the late 1990s.

Behind the Numbers These projections come from the National Center for Education Statistics of the U.S. Department of Education. They are derived by applying enrollment rates by age, sex, and grade to the Census Bureau's middle-series population projections. For more information, see "Projections of Educational Statistics to 1997-98," or contact Debra E. Gerald, National Center for Education Statistics, 555 New Jersey Avenue NW, Washington, DC 20208.

RECOVERY AHEAD

(public undergraduate enrollment, 1987-1997;* in thousands)

year	total enrollment	4-year schools	2-year schools
1987	6.069	3.555	2.514
1988	6.140	3.637	2.503
1989	6.162	3.643	2.519
1990	6.158	3.638	2.520
1991	6.102	3.607	2.495
1992	6.023	3.557	2.466
1993	5.949	3.503	2.446
1994	5.897	3.463	2.434
1995	5.875	3.446	2.429
1996	5.885	3.448	2.437
1997	5.917	3.470	2.447

* *Full-time equivalent enrollment in public colleges and universities.*

COUNTY
FORECASTS
TO 2010

COMPLETE COUNTY
ECONOMIC AND
DEMOGRAPHIC DATA
- Population by Age, Race & Sex
- Household Data
- Pe[illegible]apita Income
- Personal Income by Source
- Retail Sales
- Employment by Industry
- For Each Year 1970 to 2010

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23 MILLION MORE AMERICANS

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	248,870	100.0%	225,546	100.0%	10.3%
Under 5	18,409	7.4	16,348	7.2	12.6
5 to 9	18,333	7.3	16,700	7.4	9.8
10 to 14	17,194	6.9	18,242	8.1	-5.7
15 to 19	17,521	7.0	21,168	9.3	-17.2
20 to 24	18,746	7.5	21,318	9.4	-12.1
25 to 29	21,592	8.6	19,521	8.6	10.6
30 to 34	22,359	8.9	17,561	7.8	27.3
35 to 39	20,080	8.0	13,965	6.2	43.8
40 to 44	17,481	7.0	11,669	5.2	49.8
45 to 49	13,838	5.5	11,090	4.9	24.8
50 to 54	11,496	4.6	11,710	5.2	-1.8
55 to 59	10,644	4.3	11,615	5.1	-8.4
60 to 64	10,705	4.3	10,088	4.5	6.7
65 to 69	10,223	4.1	8,783	3.9	16.4
70 to 74	8,089	3.2	6,799	3.0	19.0
75 to 79	6,079	2.4	4,794	2.1	26.8
80 to 84	3,802	1.5	2,935	1.3	29.5
85 to 89	2,048	0.8	1,520	0.7	34.7
90 to 94	864	0.3	557	0.2	55.2
95 to 99	257	0.1	131	0.1	96.0
100 or older	57	*	32	*	78.6

* less than 0.1%

THE 1990 CENSUS WILL SHOW...

...that the population of the U.S. has reached 250 million. This gain of 23 million is a 10 percent increase over 1980. The median age of the population rose from 30 in 1980 to 33 today. But though the population as a whole is aging, some older age groups have declined since 1980, while some younger age groups have grown.

The number of people aged 50 to 59 dropped as the small generation born during the 1930s entered this age group. And the number of people aged 10 to 24 fell because of the low birthrates of the late 1960s and early 1970s. But the baby-boom generation is now in its childbearing years, and the number of children under age 10 is growing.

The oldest baby boomers turned 40 in 1986, ushering that massive generation into midlife. During the past ten years, the number of people aged 40 to 44 grew by nearly 50 percent. But the 35-to-39 age group saw the largest absolute increase. During the 1980s, 11 million people entered their 30s and are now poised to turn 40.

The fastest-growing age groups are the oldest ones. The population aged 95 to 99 has nearly doubled since 1980. And centenarians grew 77 percent. The 1990 census will show that 57,000 Americans have reached that milestone. ●

FAST-TRACK STATES

(population and change in population, by region, division, and state, in thousands; and percent change, 1980–90)

	1990 population	1980 population	1980–90 change	1980–90 percent change
United States	249.870	226.546	23.324	10.3%
NORTHEAST	50.911	49.135	1.776	3.6%
New England	13.134	12.348	786	6.4%
Maine	1.213	1.125	88	7.8
New Hampshire	1.133	921	212	23.0
Vermont	566	511	55	10.7
Massachusetts	5.942	5.737	205	3.6
Rhode Island	1.002	947	55	5.8
Connecticut	3.280	3.108	172	5.5
Middle Atlantic	37.777	36.787	990	2.7%
New York	17.946	17.558	388	2.2
New Jersey	7.900	7.365	535	7.3
Pennsylvania	11.931	11.864	67	0.6
MIDWEST	59.939	58.866	1.073	1.8%
East North Central	42.112	41.682	430	1.0%
Ohio	10.828	10.798	30	0.3
Indiana	5.556	5.490	66	1.2
Illinois	11.650	11.427	223	2.0
Michigan	9.279	9.262	17	0.2
Wisconsin	4.799	4.706	93	2.0
West North Central	17.827	17.183	644	3.7%
Minnesota	4,333	4.076	257	6.3
Iowa	2.814	2.914	−101	−3.4
Missouri	5.184	4.917	267	5.4
North Dakota	675	653	22	3.3
South Dakota	712	691	21	3.1
Nebraska	1.603	1.570	33	2.1
Kansas	2.507	2.364	143	6.1
SOUTH	87.812	75.372	11.840	15.4%
South Atlantic	43.578	36.959	6.619	17.9%
Delaware	658	594	64	10.8
Maryland	4.685	4.217	468	11.1
District of Columbia	622	638	−16	−2.4
Virginia	6.106	5.347	759	14.2
West Virginia	1.901	1.950	−49	−2.5
North Carolina	6.669	5.882	787	13.4
South Carolina	3.548	3.122	426	13.6
Georgia	6.557	5.463	1.094	20.0
Florida	12.832	9.746	3.086	31.7
East South Central	15.536	14.666	890	6.1%
Kentucky	3.768	3.661	107	2.9
Tennessee	4.954	4.591	363	7.9
Alabama	4.155	3.894	261	6.7
Mississippi	2.679	2.521	158	6.3
West South Central	27.879	23.747	4.132	17.4%
Arkansas	2.428	2.286	142	6.2
Louisiana	4.570	4.206	364	8.7
Oklahoma	3.316	3.025	291	9.6
Texas	17.565	14.229	3.336	23.4
WEST	52.008	43.172	8.836	20.5%
Mountain	13.881	11.373	2.508	22.0%
Montana	818	787	31	3.9
Idaho	1.019	944	75	7.9
Wyoming	515	470	45	9.5
Colorado	3.436	2.890	546	18.9
New Mexico	1.587	1.303	284	21.8
Arizona	3.656	2.718	938	34.5
Utah	1.775	1.461	314	21.5
Nevada	1.075	800	275	34.4
Pacific	38.128	31.800	6.328	19.9%
Washington	4.641	4.132	509	12.3
Oregon	2.758	2.633	125	4.8
California	29.030	23.668	5.362	22.7
Alaska	570	402	168	41.9
Hawaii	1.128	965	163	16.9

THE 1990 CENSUS WILL SHOW...

...that the Northeast has become the least populous region of the country.

The population of the fast-growing West squeaked past that of the slow-growing Northeast during the 1980s. Overall, states in the South and the West captured nearly 90 percent of the nation's ten-year population gain. While the Midwest was the slowest-growing region, it remains the second most populous area in the nation. The South, with 87 million people in 1990, remains solidly in first place.

California gained more people than any other state—over 5 million since 1980. The

1990 census will show that more than 29 million people live in the most populous state. Texas and Florida gained more than 3 million residents each during the 1980s, while Georgia gained over 1 million. Alaska grew the fastest during the 1980s, up by 42 percent. Arizona and Nevada follow, with gains of more than 34 percent.

Some states in the Northeast are making comebacks. The 1990 census will rank New Jersey and New York among the top 15 population gainers.

Alaska, Arizona, Nevada, and Florida each grew by more than 30 percent in the past ten years, three times as fast as the nation as a whole. Texas, New Hampshire, California, New Mexico, Utah, and Georgia grew at more than double the national rate.

The population losers of the 1980s were West Virginia and Iowa, along with the District of Columbia. ●

ETHNIC SURGE

[illegible]

	1990		1980		1980-90	
	population	percent distribution	population	percent distribution	change	percent change
Total population	249.9	100%	226.5	100%	23.4	10%
White	210.3	84	194.7	86	15.6	8
Black	31.0	12	26.7	12	4.3	16
Asian or other races	8.6	3	5.2	2	3.4	65
Hispanic*	21.0	8	14.6	6	6.4	44

* [illegible]

THE 1990 CENSUS WILL SHOW...

...increasing ethnic and racial diversity. During the 1980s, 500,000 legal migrants a year accounted for one-fifth of our population growth. And about 200,000 illegals also joined our population each year. Mexicans, Filipinos, Chinese, Koreans, and Vietnamese are the most common new arrivals. These immigrants are the driving force behind the changing racial and ethnic composition of the U.S.

The 1990 census will count 21 million Hispanics, a 44 percent increase since 1980. Hispanics now account for over 8 percent of Americans, up from only 6 percent ten years ago. And if the 1990 census undercounts Hispanics at the same rate as the 1980 census, the figures will fall short of the true total by about 1 million.

The number of people of "other" races (mostly Asians, as well as Pacific Islanders, American Indians, Eskimos, and Aleuts) grew the fastest during the 1980s, up by 65 percent. This growth is primarily the result of Asian immigration. Now nearing 9 million, "other" races gained as a share of the U.S. population, rising from 2 to 3 percent.

With a 16 percent increase, blacks held on to their 12 percent share of the total population. Though whites gained the greatest number of people (16 million), their 8 percent increase was not enough to maintain their share of the total population, which dropped from 86 to 84 percent. ●

BIG-CITY BOOM

(population of the 25 most populous metropolitan statistical areas and change, in thousands; percent change, 1980-90)

1990 rank	1980 rank	metropolitan area	1990 population	1980 population	1980-90 change	percent change
1	(2)	Los Angeles-Long Beach, CA	8.771	7.477	1.294	17.3%
2	(1)	New York, NY	8.625	8.275	350	4.2
3	(3)	Chicago, IL	6.300	6.060	247	4.1
4	(4)	Philadelphia, PA-NJ	4.973	4.717	256	5.4
5	(5)	Detroit, MI	4.408	4.488	–79	–1.8
6	(7)	Washington, DC-MD-VA	3.710	3.251	459	14.1
7	(8)	Houston, TX	3.509	2.735	774	28.3
8	(6)	Boston, MA	2.837	2.806	31	1.1
9	(13)	Atlanta, GA	2.744	2.138	605	28.3
10	(9)	Nassau-Suffolk, NY	2.736	2.606	130	5.0
11	(15)	Dallas, TX	2.615	1.957	658	33.6
12	(10)	St. Louis, MO-IL	2.511	2.377	134	5.6
13	(14)	Minneapolis-St. Paul, MN-WI	2.460	2.137	323	15.1
14	(19)	San Diego, CA	2.375	1.862	513	27.6
15	(12)	Baltimore, MD	2.352	2.199	153	6.9
16	(16)	Anaheim-Santa Ana, CA	2.294	1.933	361	18.7
17	(24)	Riverside-San Bernardino, CA	2.265	1.558	707	45.4
18	(25)	Phoenix, AZ	2.152	1.509	643	42.6
19	(22)	Tampa-St. Petersburg, FL	2.109	1.614	495	30.7
20	(11)	Pittsburgh, PA	2.085	2.219	–133	–6.0
21	(20)	Oakland, CA	2.033	1.762	272	15.4
22	(18)	Newark, NJ	1.913	1.879	34	1.8
23	(21)	Miami-Hialeah, FL	1.853	1.626	227	14.0
24	(23)	Seattle, WA	1.842	1.608	234	14.6
25	(17)	Cleveland, OH	1.832	1.899	–67	–3.5

Note: Geography for both the 1990s and 1980s metropolitan areas is defined as of June 30, 1989.

THE 1990 CENSUS WILL SHOW...

...a resurgence in metropolitan growth. Ten years ago—as the nation looked back on a decade of unprecedented nonmetropolitan growth—no one anticipated a metropolitan revival. But during the 1980s, metropolitan areas grew at nearly double the rate of nonmetropolitan areas.

While no new metros will be added to the top 25, rankings will change. The 1990 census will show Los Angeles-Long Beach replacing New York City as the most populous metropolitan area. L.A. grew by 17 percent since 1980, while New York City grew by just 4 percent.

Over the decade, Los Angeles-Long Beach gained more people than any other metropolitan area—1.3 million. Despite Houston's economic woes, that area gained fully 774,000 people. Riverside-San Bernardino, which borders the L.A. metropolitan area, comes in third with a gain of 707,000 people.

Among the 25 largest metropolitan areas, Riverside-San Bernardino has been the fastest growing—up 45 percent since 1980. But Phoenix follows closely with a 43 percent gain. Dallas, Tampa-St. Petersburg, Houston, Atlanta, and San Diego all grew by more than 25 percent in the 1980s. The only losers among the top 25 metros were Pittsburgh, Detroit, and Cleveland. ●

LONE LIFESTYLE

(households and change in households, in thousands; percent distribution and percent change by household type, 1980–90)

	1990		1980		1980–90	
	households	percent distribution	households	percent distribution	change	percent change
All households	93.920	100.0%	80.467	100.0%	13.453	16.7%
Family households	66.542	70.8%	59.190	73.6%	7.352	12.4%
Married couples	52.837	56.3	48.990	60.9	3.847	7.9
Without children <18	28.315	30.1	24.210	30.1	4.105	17.0
With children <18	24.522	26.1	24.780	30.8	−258	−1.0
Other family, female head	11.130	11.9	8.205	10.2	2.925	35.6
Other family, male head	2.575	2.7	1.995	2.5	580	29.1
Nonfamily households	27.378	29.2%	21.277	26.4%	6.101	28.7%
Living alone	22.879	24.4	18.202	22.6	4.677	25.7
Men	9.119	9.7	7.075	8.8	2.044	28.9
Women	13.759	14.7	11.127	13.8	2.632	23.7
Living with nonrelatives	4.500	4.8	3.075	3.8	1.425	46.3
Male householder	2.803	3.0	1.866	2.3	937	50.2
Female householder	1.696	1.8	1.209	1.5	487	40.3

THE 1990 CENSUS WILL SHOW...

...that the number of households grew by 17 percent during the 1980s, faster than the population as a whole. Average household size continues to shrink—to 2.6 people per household in 1990, down from 2.8 in 1980.

The census will show that one in four households is a person who lives alone. The number of single-person households grew 26 percent in the 1980s. In sharp contrast, the number of married couples with children under age 18 in the home fell 1 percent—the only household type to decline in number. The fastest-growing family type was families headed by women with no husband present, up 36 percent during the decade.

The number of householders who live alone or with unrelated people (nonfamilies) grew 29 percent in the 1980s, compared with a 12 percent gain for families. Among nonfamilies, the fastest-growing household type was people living with nonrelatives. Over the decade, this type of household increased by 46 percent, to 4.5 million. Nonfamily households headed by men grew faster than those headed by women. ●

MIDLIFE MONOPOLY

(households and change in households, in thousands; percent change by age of householder, 1980–90)

	1990	1980	1980–90 change	1980–90 percent change
All households	93,920	80,390	13,530	16.8%
Under 25	4,683	6,709	–2,026	–30.2
25 to 34	21,181	18,341	2,840	15.5
35 to 44	21,059	13,948	7,111	51.0
45 to 54	14,330	12,630	1,700	13.5
55 to 64	12,349	12,617	–268	–2.1
65 and older	20,307	16,134	4,173	25.9

(median household income, change in income, and percent change by age of householder, 1979–89; in 1989 dollars)

	1989 median	1979 median	1979–89 change	1979–89 percent change
All households	$29,317	$28,554	$ 763	2.7%
Under 25	17,405	19,430	–2,026	–10.4
25 to 34	30,408	30,356	52	0.2
35 to 44	39,298	37,811	1,487	3.9
45 to 54	42,218	40,361	1,857	4.6
55 to 64	30,906	31,429	–523	–1.7
65 and older	16,335	14,374	1,961	13.6

Note: Income statistics refer to annual income in the year prior to the censuses.

THE 1990 CENSUS WILL SHOW...

...that median household income is nearly $30,000—2.7 percent greater than ten years earlier, after adjusting for inflation.* The gains in household income late in the decade more than made up for an 8 percent drop between 1980 and 1981. But these income gains have not been shared equally by all age groups.

The number of householders under age 25 fell by 30 percent during the 1980s as the baby-bust generation entered adulthood. The median household income of this age group also fell, to just $17,400 in 1989—10 percent less than in 1979, after adjusting for inflation. This median is now just 7 percent greater than that of elderly householders. Ten years earlier, it was 35 percent greater.

The number of households headed by people aged 25 to 34 grew 15 percent since the last census. The median income of this group just kept pace with inflation.

Rapid growth in the number of middle-aged householders nearing their peak earning years boosted overall median household income in the 1980s. Householders aged 35 to 44 have the second highest median income, nearly $40,000 in 1989. During the 1980s, the number of households in this segment grew by 51 percent. Householders aged 45 to 54 have the highest median income—$42,200 in 1989, nearly 5 percent greater than in 1979, after adjusting for inflation.

The number of householders aged 55 to 64 is down 2 percent since the last census. The median income of this group also fell 2 percent over the decade. The trend toward early retirement is behind this income decline.

Householders aged 65 and older enjoyed the greatest economic gains during the 1980s. Increases in Social Security and in pension participation contributed to this group's 14 percent income gain. ●

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* *The census asks for income in the previous year.*

BULGE IN THE MIDDLE

(civilian labor force aged 16 and older by age and sex, in thousands; participation rates, and percent change in labor force, 1980–90)

	1990		1980		1980–90
	labor force	participation rate	labor force	participation rate	percent change in labor force
Labor force, aged 16 and older	121.861	66.6%	104.450	62.5%	16.7%
MEN	67.211	75.3%	59.926	75.8%	12.2%
16 to 24	10.971	70.6	12.591	68.9	-12.9
25 to 34	19.763	93.8	16.655	93.9	18.7
35 to 44	17.090	94.3	11.609	94.8	47.2
45 to 54	11.120	90.6	9.838	90.8	13.0
55 to 64	6.467	65.2	7.256	71.9	-10.9
65 and older	1.799	14.6	1.978	20.0	-9.0
WOMEN	54.650	58.3%	44.523	50.5%	22.7%
16 to 24	10.122	63.0	10.982	58.0	-7.8
25 to 34	16.368	75.4	12.112	64.9	35.1
35 to 44	14.682	77.8	8.446	64.8	74.0
45 to 54	9.175	70.6	6.916	59.0	32.7
55 to 64	3.020	44.2	4.824	41.9	-37.4
65 and older	1.274	7.4	1.243	8.7	2.4

Note: The labor force consists of persons aged 16 and older working or looking for work. The labor force participation rate is the share of the population in an age group that is in the labor force.

THE 1990 CENSUS WILL SHOW...

...women accounting for almost 60 percent of labor force growth since 1980. Today, fully 58 percent of women and 75 percent of men aged 16 or older are in the labor force.

Overall, the nation's work force grew by 17 percent since 1980. But changing demographics combined with shifting labor force participation rates resulted in a sharp decline in the number of entry-level workers and a decrease in the most experienced workers.

There are 13 percent fewer men aged 16 to 24 in the labor force and 8 percent fewer women. In contrast, the number of workers aged 25 to 34 grew by 19 percent among men and 35 percent among women.

The aging of the baby boomers produced dramatic growth in the number of workers aged 35 to 44. Over the decade, the number of men aged 35 to 44 in the labor force rose by nearly 50 percent. As the labor force participation rate for women aged 35 to 44 leaped from 65 to 78 percent, this group experienced a 74 percent numerical increase.

The number of women aged 55 to 64 who work dropped by fully 37 percent since 1980, and the number of men in this age group who work dropped by 11 percent. Although labor force participation rates for women aged 55 to 64 rose slightly during the 1980s, men's rates fell because of early retirement. That drop, combined with a smaller population in this age group, is behind the decline in the experienced work force. ●

BETTER EDUCATED

educational attainment of noninstitutionalized adults aged 25 or older by sex and age, 1980 and 1990, in percent

	1990			1980	
	percent high school graduates	percent college graduates	percent completing 4 or more yrs. of college*	percent high school graduates	percent completing 4 or more yrs. of college
All adults, aged 25 and older	77.3%	18.8%	20.3%	66.5%	16.4%
MEN	77.7%	21.9%	23.9%	67.7%	20.5%
25 to 34	88.5	21.3	24.5	84.8	26.8
35 to 44	87.1	28.3	30.8	77.3	24.5
45 to 54	79.1	24.6	25.5	65.8	18.8
55 to 64	68.1	18.9	20.7	58.3	14.3
65 and older	54.6	13.4	13.8	37.5	10.0
WOMEN	76.9%	15.6%	17.0%	66.2%	12.9%
25 to 34	87.8	20.5	23.6	84.1	20.4
35 to 44	86.6	20.6	22.5	76.4	14.9
45 to 54	79.2	14.9	15.4	66.7	10.5
55 to 64	70.2	10.1	11.1	57.6	8.0
65 and older	55.2	7.9	8.0	40.1	7.2

* This category will not be included in the 1990 census. These are American Demographics' estimates.

THE 1990 CENSUS WILL SHOW...

...that the leading edge of the baby boom—now aged 35 to 44—is the most educated generation ever. One in four has completed at least four years of college. Younger men, aged 25 to 34, are now less likely to have completed four years of college than were the baby boomers ten years ago. The high cost of education may be pushing young adults out of college and into the work force.

One in five Americans has completed at least four years of college, up from one in six ten years ago. But you won't be able to make this comparison using the 1990 census. That's because this census will ask for the educational degrees people have earned, rather than the number of years of school they have completed.* Because not everyone who completes four years of college gets a degree, the share who graduate from college will be lower than the share who have attended college for at least four years. The 1990 census will show that nearly 19 percent of Americans have at least a bachelor's degree.

The census will also show that the educational gap between men and women is narrowing. Among people aged 45 to 54, the share of men with college degrees is 10 percentage points higher than the share of women. But among people aged 25 to 34, the difference is less than 1 percentage point. While the share of young men with four or more years of college dropped since 1980, the share of young women with four or more years of college grew. ●

* *See "The 1990 Census Questionnaire,"* American Demographics, *April 1989, page 24.*

The Elusive Decade of Hispanics

The Miami-based Cuban American National Council, Inc., has published a significant report, The Elusive Decade of Hispanics, which highlights key issues and outcomes that shaped the Hispanic-American community during the 1980s. Following are some highlights from the report.

The Decade of Hispanics

During the 1980s the U.S. Hispanic population reached the 20 million mark. The media was quick to recognize the event as newsworthy. Hence, Hispanics were "discovered" in the 1980s and the general public was amazed that a virtually ignored group suddenly had become the nation's fastest-growing minority.

So widespread and frequent was the media coverage that the period was dubbed "the decade of the Hispanics," and it was anticipated that Hispanics would seize the opportunity to turn their numbers into equitable political empowerment and full participation in the nation's social, economic and educational life.

But Hispanics did not move as rapidly as outside observers had predicted. United by a common language and by their roots in nations that were colonized by Spain, Hispanics are divided by country of origin, the recency and nature of their entry into the United States, race, age, class, and the regions of the United States in which they live. These differences are considerable, and in the early years of the decade the groups were still developing a collective awareness of themselves as "Hispanics." It was not until the latter part of the 1980s that their leadership began to focus on a national Hispanic agenda and to seriously consider the potential benefits that could be derived from the nation's deepening interest in Hispanic issues.

The closing of the decade offers an opportunity to look back. Did "the decade of Hispanics" fulfill its promise? What was set in motion? Where did it fall short of expectations? What was achieved? What lies ahead?

What Did Hispanics Expect?

The issues pursued by Hispanics in the 1980s reflected their desire to become active players in the U.S. pluralistic society and to participate fully in the "American Dream." Although the leadership dealt with a wide range of concerns, attention was focused most strongly on employment, education, the preservation of the Hispanic heritage and cultural values, and a quest for equitable political representation.

The Numbers

In less than a decade the Hispanic percentage of the total U.S. population rose from 6.5 percent to 8.1 percent. Between 1980 and 1988 Hispanics experienced a 34 percent growth rate, compared to an 8 percent general-population growth rate. The numbers increased from 14.5 million in 1980 to 19.4 million in 1988. In fact Hispanics became the nation's second largest ethnic/racial minority, surpassed only by black Americans.

The Gains

- Political representation. The decade proved that Hispanics are actively seeking and slowly gaining political representation. In 1984 the number of Hispanic elected officials in the nation was 3,128; by 1988 that figure had increased by approximately 7 percent, to 3,360. However, those 3,360 Hispanic elected officials amounted to less than 1 percent of the nation's elected officials, far below the 8.1 percent of the total population that Hispanics constituted in that year.

By 1988—

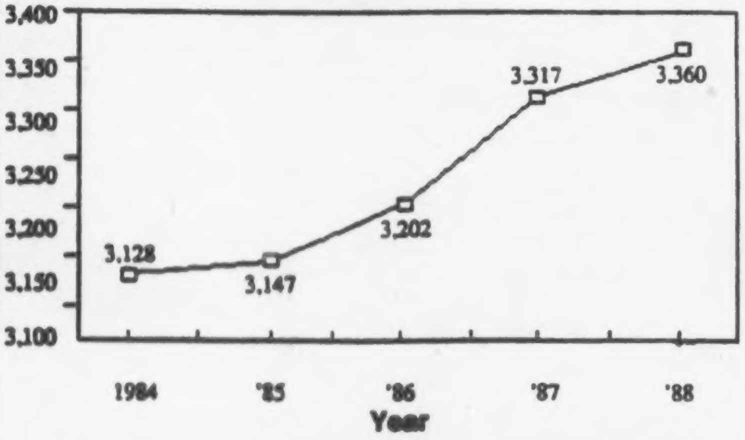
- 230 Hispanics were mayors
- 1,425 were county and municipal officials
- 120 were state legislators
- 1,226 were education or school board officials, and
- 11 were U.S. representatives

Hispanic influence has also been reflected in the appointment of several Hispanics to high-level government positions, for example, Lauro Cavazos as U.S. Secretary of Education, and Manuel Lujan as U.S. Secretary of the Interior.

- Economic Gains. Some economic gains made by Hispanics over the decade were encouraging. In 1980, only 2.3 percent of Hispanic households qualified as affluent. By 1986 that figure had quadrupled, reaching 9.2 percent, higher than the black figure of 6.9 percent, and

Hispanic Elected Officials

Number of Hispanic Elected Officials



Source: The Cuban American National Council, Inc., *The Elusive Decade of Hispanics* inexorable march to the new age.

However, by demanding that black consumers subscribe to white products, white values and white culture by purchasing products that define white attitudes, blacks will continue to feel the frustration of trying to assimilate into a society whose mainstream widens, shrinks or is redirected by "a word from our sponsor."

Toward An African-American Agenda: An Inward Look

Dr. Ramona Hoage Edelin
President and Chief Executive Officer
National Urban Coalition

While domestic demographic projections differ, there is no question about the facts that the number of workers available to the U.S. work force is in sharp decline. That is to say, we already know there will be a labor shortage in the next century; that the need for higher educational and technological expertise of that work force has increased dramatically at the same time that the preparation in mathematics and science of all American high school graduates has declined alarmingly, relative to other students in the global economy; that children of color have been under-prepared at an unconscionable level and to a totally unacceptable degree, particularly in the technological fields; and that, when we add women, who are also underprepared in the technical fields, to the pool of available workers, the percentage of potential workers requiring great investment in their talent and knowledge approaches 85 percent. Racism, classism, and sexism must not continue to prevent the development of a solid American work force, if economic opportunity and a stable standard of living are to remain all-important to Americans.

Despite the range of personal feelings and opinions in matters of race, there have been substantial changes in the status of African Americans over the past 50 years, due to systemic public and private responses to the need to develop America's human capital. We want to press such changes much further, to their conclusion: to the perfect and unlimited equality of the African-American, and of other people of color.

Before cultural renewal can unfold, before education can lead our group back to its ancestral mastery in learning, before the development of a self-sustaining economic infrastructure can be realized, we must want and decide to make the most of being African in America. This key decision can be a compelling creative challenge resulting in perfect equality if we properly understand our possibilities and work together toward achieving them.

Agendas that address what we need or should have from the external or larger society include impacting public policy at the state and local as well as federal levels, particularly in areas related to ending our segregation from capital, and ending discrimination in housing, employment, education, and the criminal justice system. Renewed demands for reparations and resistance with respect to Reagan Court roll-backs in affirmative action affecting employment opportunity and economic development are the clear priorities.

All the research corroborates our experience that isolation of parts of our group, such as "dropouts," "unwed teens," "learning disabled," children, or "senile" senior citizens only increase their inability to function productively in society. The middle class wants a structured way to share talent and advantage with those less fortunate who are of their families and group, and to reverse the brain-drain that depletes our still-segregated cities. Children and young adults often do not have the benefit of an extended family, with seniors or elders who can share wisdom and practical counsel with them. Far too many women, who are not inherently unable to raise families by any means, lack the support network of male and female family and friends who are always needed to help in the raising of children as part of a social or cultural group.

How can we ensure that systemic racism will be too costly to be continued in the 1990s? When we understand what it means to be equal, to make ourselves the perfect and unlimited equals of any group, to regain control and power over our lives and destinies and those of our children—when we have chosen to redevelop ourselves and our culture, then the costs of institutionalized discrimination against us will be too high in America. A successful cultural offensive—which would unite us and coordinate and focus our leadership; create markets, businesses and jobs; reestablish mastery in learning and materially change the lives of our poor, near-poor, and middle classes so that our group substantially enhances the productivity and competitiveness of this nation—will ensure that the "old, tired baggage of racial discrimination and bigotry" must be discarded on the way from the 1980s to the new millenium.

Mean Family Income: Selected Years

(1988$)

	Median Family Income				Aggregate*
	Black	White	B/W	B/W	Gap
1988	$19.329	$33,915	57.0	$14,586	$111 Billion
1987	19.168	33,725	56.8	14,557	107 Billion
1986	19.001	33.255	57.1	14.254	104 Billion
1985	18.455	32,051	57.6	13,596	99 Billion
1982	16.670	30.161	55.3	13.491	91 Billion
1980	18.196	31.447	57.9	13.251	83 Billion
1978	19.739	33.327	59.2	13.588	80 Billion
1970	19.144	31,209	61.3	12,065	61 Billion

*Equals (Mean White Family Income - Mean Black Family Income) × Number of Black Families

Source: U.S. Department of Commerce, Bureau of the Census, *Money Income and Poverty Status in 1988*, Table 7. Calculations of aggregates and gaps done by author.

Separate but equal all over again

In Louisiana, a court battle over desegregating the state's public colleges has raised racial passions

Pioneer. Student-body President Bennett knows integration has its price

Kirt Bennett symbolizes both the success and the failure of the nation's campaign to desegregate its colleges and universities. Last month, the senior from New Orleans was elected president of the 26,000-member student body at Louisiana State University in Baton Rouge by one of the largest margins in the school's history. Bennett is one of only 1,900 black students at LSU, the state's flagship university. He selected LSU over predominantly black schools for academic reasons. But since his freshman year, when he learned that LSU's fraternities were segregated, Bennett has endured indignities small and large. "You get a juice of reality from Day One," he says.

Nearly four decades after the U.S. Supreme Court declared separate school systems for blacks and whites unconstitutional, public higher education in Louisiana—and throughout the South—remains largely segregated. Last year, a federal court in New Orleans ordered Louisiana to take sweeping steps to eliminate the "racial identifiability" of its 19 colleges and universities. Enrollment is at least 90 percent black at four of the schools, while whites make up 74 percent to 92 percent of the student bodies at 14 of the others.

The court called for Louisiana to merge the governing boards of its three separate university systems, including predominantly black Southern University, which has three campuses and 14,000 students. It also required affirmative-action admissions policies at both black and white schools, enrollment ceilings to prevent the "flight" of students to same-race schools and the merger of the LSU and Southern law schools, both located in Baton Rouge.

Unlikely opponents. The ruling, the latest turn in a case first brought by the U.S. Justice Department in 1974, has raised important legal issues that may ultimately be decided by the Supreme Court. Must states do more than abolish legal segregation in their colleges and universities? And, if so, what must they do? The Louisiana case could affect desegregation plans under way throughout the South and in border states such as Maryland. The High Court recently agreed to review an Oklahoma case involving similar issues in elementary and secondary education.

In Louisiana, the court's order has also ignited an educational and political controversy fraught with irony. The four predominantly black public colleges want to keep things as they are now—and so do many black educators, who are in the unusual position of supporting publicly funded segregated schools. By contrast, the Louisiana chapter of the National Association for the Advancement of Colored People (NAACP) agrees with the court. Two of the state's top officials, both Democrats, are similarly divided. Governor Charles "Buddy" Roemer wants one system while Atty. Gen. William Guste, Jr., wants separate governance.

Many members of Louisiana's civil-rights community, which has struggled for nearly two decades to integrate the state's public colleges and universities, are enraged. "We wanted to end separate black schools, and now they want separate black colleges," says Raphael Cassimere, Jr., cochairman of the Citizens' Committee for Equity and Excellence in Louisiana's Universities. "It's separate-but-equal all over again." Rupert Richardson, president of the Louisiana NAACP, calls Southern University's resistance "embarrassing."

The controversy in Louisiana comes at a time when student interest in black colleges nationwide is rising. Enrollment at the nation's 87 public and private black schools has jumped 10 percent this year. That is due, in part, to an increase in the minority population—and also to a reassessment by some blacks of the merits of integration, especially in higher education. Predominantly black colleges enroll 20 percent of the nation's black students but award 40 percent of the bachelor's degrees earned by blacks.

Supporters of Louisiana's black colleges, reflecting similar sentiments elsewhere, contend that the

Black and white on campuses. The U.S. government says that Louisiana must take steps to eliminate the "racial identifiability" of its public colleges and universities, especially on four predominantly black campuses:

University	Percentage of students enrolled who are—	
	Black	White
Grambling State Univ.	94.6%	3.4%
Southern Univ.-Baton Rouge	91.8%	5.0%
Southern Univ.-New Orleans	90.6%	5.8%
Southern Univ.-Shreveport/Bossier City	91.3%	8.1%
Total for all public universities	23.6% (34,991 students)	70.3% (104,148 students)

NOTE: Figures are from [illegible] and exclude American Indians, Asians, Hispanics and [illegible] aliens.
USN&WR—Basic data: Louisiana Board of Regents

U.S.NEWS & WORLD REPORT, April 23, 1990

Study: Bill falls due for poor kids

Future costs will be great, report warns

By Judy Keen
USA TODAY

Those most affected by poverty are children under age 6, a new study says, and the USA will pay if their generation is trapped in a spiral of poverty.

About 5 million children — almost one of every four U.S. youngsters and twice the number of poor adults — live in families below the poverty line, says Columbia University's National Center for Children in Poverty in New York.

"We're really mortgaging our future by not investing in our kids," says Tim Smeeding, public policy and economics professor at Nashville's Vanderbilt University.

Children who grow up poor are more likely to do badly in school, become criminals, become unmarried teen parents, earn less and be on welfare.

And the report warns that poor children are more vulnerable to health problems, prenatal exposure to AIDS and drugs, abuse and neglect. The 1989 pre-tax poverty line: $9,890 for a family of three, $12,675 for a family of four.

In 1987, 32.5 million people lived in poverty; 13 million were under 18.

"We should be outraged and appalled that the country continues to allow this to happen," says James Weill of the Children's Defense Fund. "In the long run it's going to be very damaging to the country."

Young children are the USA's poorest age group because their young parents were shut out of the economic boom of the '80s, says Sheldon Danziger, University of Michigan professor of public policy.

"During this recovery, the young have fared much less well," he says. "The gaps between rich and poor have continued to widen."

Proposed solutions:

▶ The report recommends universal health insurance, better child care, unemployment insurance, affordable housing, education and job training reforms, programs to prevent teen pregnancy.

▶ Passage of a child-care bill, pending before Congress, that would increase federal income supplements for working-poor families.

▶ Boosting spending on Head Start and other programs for pre-schoolers and mothers with infants. "They work, but they're terribly under-funded," says Smeeding.

▶ Continued health insurance and child care help for adults who get off welfare.

"Why don't we reward people who go to work?" asks Rev. Harry Walker of the Sioux City, Iowa, Gospel Mission.

The report also refutes poverty myths. The facts:

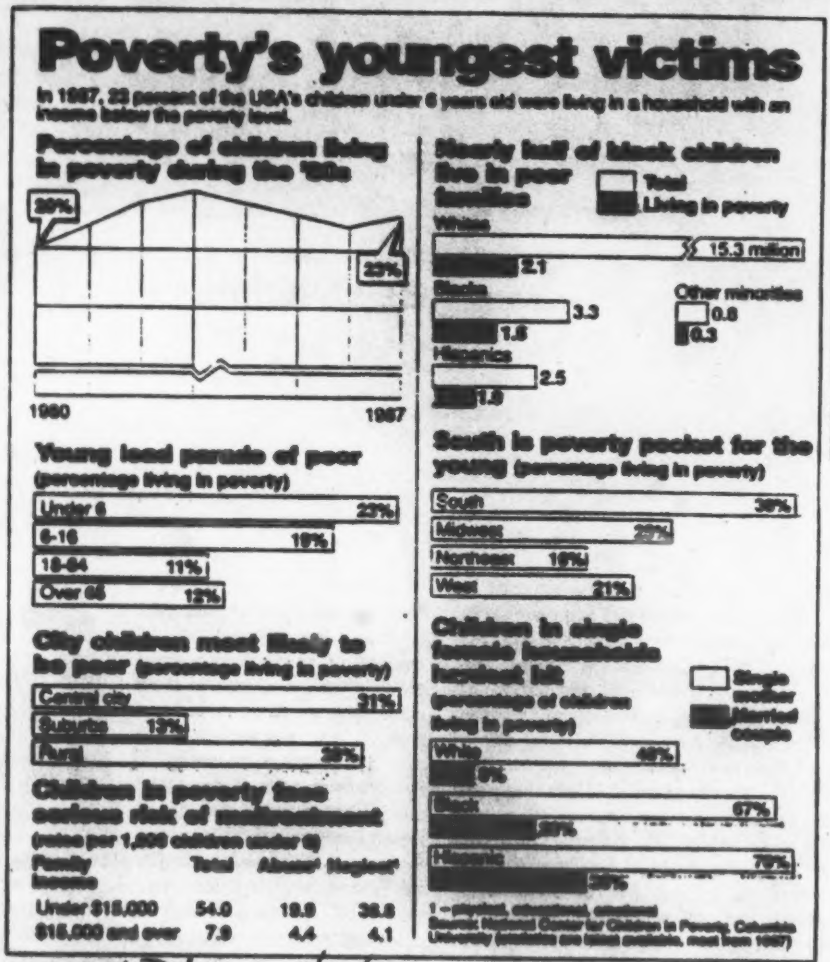
▶ More than half of poor children live outside big cities.

▶ 53 percent have at least one working parent.

▶ Only 28 percent are in families entirely dependent on public assistance.

"I hope the report is the low point," says Danziger, who believes a higher minimum wage, tax breaks and new health programs will help rescue poor kids.

"We've neglected the problem for a decade," he says, "but now we're focusing on it."



Poverty's youngest victims

In 1987, 23 percent of the USA's children under 6 years old were living in a household with an income below the poverty level.

Children in poverty face serious risk of maltreatment (rates per 1,000 children under 6)

Family income	Total	Abuse[1]	Neglect[1]
Under $15,000	54.0	19.9	38.8
$15,000 and over	7.9	4.4	4.1

1 – physical, educational, emotional

Source: National Center for Children in Poverty, Columbia University (statistics are latest available, most from 1987)

USA TODAY

USA Today 4/16/90

Poor, but 'living well'

By Debbie Howlett
USA TODAY

In Pullman, W.Va. — the poorest town in the USA's 4th poorest state — Robert Grimm doesn't see much poverty.

"We've only got three families here on welfare," says Grimm, who owns the town's only grocery store. "The rest of the people are living pretty good."

On average, people here earn a yearly income of $4,[illegible], says a new U.S. Census report on poverty. That's about half the statewide average and one-third of the poverty level for a family of four.

"People tend to think of poverty in exclusively urban, [illegible] terms," says University of Michigan researcher Greg Duncan.

About 75 percent of the 150 people who live in Pullman, a quiet little town named for the man who invented the Pullman railroad car, are retired.

Sonny Newman, a retired bread delivery man, and his wife, Georgina, moved from New Jersey into a 14-room house on 20 acres. It cost them $70,000 two years ago. "I could come here and live a lot more cheaply," he says.

Newman notices little poverty among residents: "They have large gardens and they hunt. They live well."

ECONOMIC

Nation prepares for loss of jobs in defense industry

By Louis Uchitelle
The New York Times

The U.S. economy can absorb large cuts in military spending without serious damage, economists say, although for a while, at least, tens of thousands of Americans will lose their jobs.

That will happen mostly because military spending will shrink faster than the civilian sector can expand to take up the slack.

By most estimates, the process could temporarily idle up to 100,000 people a year in the 1990s, most of them discharged from the military service against their wishes or laid off at weapons plants, which would then go unused.

The proposed military cuts, some calling for reductions of more than $100 billion a year by the late 1990s, would mark the fourth big cutback in military spending since World War II.

> "What can you do with a tank factory?"
>
> MICHAEL W. WYNNE, GENERAL DYNAMICS

But it would differ from the others in two significant ways.

Never before on the eve of a major reduction has the military represented so small a portion of the national economy: Less than 6 percent of the total wealth created in the nation last year.

As a result, the cutback will scarcely show up in the statistics that measure economic strength.

Nevertheless, this is the nation's first attempt to shrink military spending at a time of sluggish economic growth — when idle weapons factories and their workers are not really needed for civilian production.

The cutbacks might be hard to spot in the national statistics, but in a weak economy they could contribute to a recession in the early 1990s.

"Probably, the weakness in the economy today has something to do with the shrinkage in defense spending that has already taken place," said Robert Giordano, chief economist at Goldman, Sachs & Co.

"But to really take a sledgehammer to the economy, you would need cutbacks far bigger than anyone has yet proposed."

Even if the cutbacks turn out to be footnotes in the record books, they still inflict damage in places like Lima, Ohio, and Warren, Mich., where General Dynamics Corp. operates the only two factories still producing tanks in the United States.

The Army intends to end tank production in 1993, for the first time since World War II.

If such plans go through, then General Dynamics insists that it will have to close its tank division, which employs 7,300 people and draws on a network of private suppliers that employ thousands more.

Related story 1C

"What can you do with a tank factory?" Michael W. Wynne, a vice president of General Dynamics, asked rhetorically.

"You can make tractors and heavy earth-moving equipment, but Caterpillar already has that market sewed up. If there is no defense work to support these factories, then we'll have no alternative but to give them up."

Similar problems are hurting cities and towns in the Northeast, the mid-Atlantic and West Coast, the three regions where military spending is concentrated.

And a cutback in military spending brings subtle changes that affect millions of lives.

Among these changes, perhaps the most important is the impact on minority workers.

The armed forces and the Defense Department's civilian payroll have been a source of jobs and training for blacks and others who have been under-represented in the civilian sector.

In addition, weapons makers and military research laboratories often pay more than civilian employers, so the military cutback might lower the national wage level.

In Massachusetts, a center of arms research and production, military-sector wages averaged $33,000 a year in 1987, or 23 percent more than the average income in the private sector, according to a state government study.

More positively, a cutback in military spending would bring highly skilled people to the civilian sector.

Thirty percent of the nation's engineers and scientists work on military projects, and some would be freed to develop civilian products, said Lloyd Dumas, an economist at the University of Texas.

"Take videocassette recorders," he said.

"We invented the basic technology, and with that head start, if we had applied enough engineering and technology talent to developing the recorders themselves, we would be ahead in the field."

No U.S. company makes VCR's today.

Whatever the benefits or drawbacks, the biggest immediate issues, in the view of many economists and politicians, are retooling and retraining.

Factories that make tanks or fighter planes or missiles will need to be overhauled to make civilian products.

Above all, the U.S. economy in the 1990s will be shaped by the federal government's strategy for spending the "peace dividend."

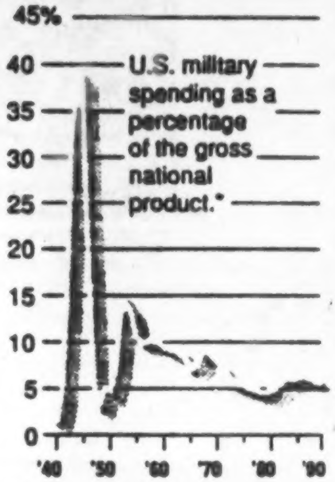
The huge debate building over this issue offers two alternatives.

One would use the savings from the military sector to reduce the budget deficit, in the belief that a lower deficit means less government borrowing and thus lower interest rates on loans for everyone.

The other alternative is to spend much more on public works.

Even strong proponents of budget cutting acknowledge that the nation's deteriorating highways and bridges, water and sewer systems, airports and mass transit make companies reluctant to build new factories, no matter how low interest rates might be.

Military spending



* Figures for military spending are calculated in fiscal years, which end Sept. 30. GNP figures are calculated in calendar years.

Sources: Commerce Department, Federal Reserve Bank of Boston

N.Y. Times News Service

Frontispiece of "From the Earth to the Moon," by Jules Verne

MAKING SENSE OF THE '90s

Where CO_2, bio-tech, the end of empires, a new knowledge explosion and anti-knowledge reaction, a youth-heavy third world and graying first world are taking us.

By Earl W. Foell

AT THE MOMENT IT'S THE GRAY Nineties. Nobody's colored them in. But everywhere you look some columnist or $5,000-an-hour adviser to industrialists is brashly trying to paint in details of the new decade.

In almost every presidential hideaway, foreign ministry, defense ministry, intelligence headquarters, corporate board room, think tank, scientific association, and investment house the new year and new decade are bringing on a spurt of planning ahead. The habitual grasshoppers of government are playing ant.

Not to be left behind, let's look, just as brashly but at no charge, at where we're headed in the '90s and the start of the next millennium.

Obviously what's of primary importance to each of you is that you and your family survive, make progress, and learn a few things in the forthcoming decade. And that requires that the home planet and its species survive, and experience gradual rather than radical change on its surface and thin skin of atmosphere. So the chief two-legged species hereabouts needs to put into practice what a majority of its adults probably understand in their more thoughtful moments. That's population control, CO_2 control, soil-loss and forest-loss control, drug-use control, living-on-credit control—in short, self-control. All of it simple; none of it easy.

Next, to color in the '90s and beyond, avoid both rose-colored glasses and gloom-and-doom dark glasses and do what architects and fashion designers do: Pay attention to both the history books and the innovators. We're safely past 1984, as events in Moscow and Eastern Europe show, and heading for 2001, as many of the innovations I'll list in a minute indicate. But before joining the absolutists who have prematurely proclaimed the End of History, the End of the English Novel, or the End of the Democratic Presidency in recent months, remember two other dates: 1815 and 1848.

The gents who ran the Congress of Vienna in 1815 not only put Europe back into shape after Napoleon ran roughshod through it, they paved the way for the return of conservative monarchy in the wake of the unsettling French Revolution, Napoleon's perestroika program, and his imperial final chapter. In 1848, the rigidity brought on by that restoration of monarchy came widely unglued in an upsurge of Solidarity-like popular unrest that swept Europe. But that push for free institutions fizzled—or rather submerged to reappear, sporadically, in American abolitionism, Russia's freeing of serfs, Gandhism in India and South Africa, the 1919 and 1989 Chinese student protests, 1956 Hungarian revolution, 1968 Prague Spring, 1979-80 Gdansk shipyard uprising, and 1989's domino run of protest through Moscow's inner and outer empires, climaxing at Berlin's modern wall of Jericho.

If there are lessons for the '90s in this over-condensed history, one is that China's younger generation will be heard from again. The liberation that Deng started and stopped is not over yet. A second, somewhat opposite, probability is that the great popular outburst in Eastern Europe will, like 1848, settle into something less liberated. What's likely is a scenario in which Hungary, Poland, East Germany, and Czechoslovakia become economically associated with the new West European market while remaining, like Finland, politically and militarily respectful of Moscow.

Before becoming an editor at WM, Earl W. Foell covered stories in Eastern and Western Europe, Japan, China, the UK, and Africa for The Christian Science Monitor and The Los Angeles Times. He also interviewed leaders in many of these nations. His career has included stints as education writer, architecture critic, book critic, urban affairs writer, editorial writer, managing editor, editor, and editor in chief at the Monitor.

We're living in a heady period. People don't often get to see an empire implode. The Roman, Ottoman, Mogul, British, and Portuguese empires —to name a few—died about as slowly as a Wagnerian soprano. But there, on camera for all the world to see, was the Romanov empire, turned into a conglomerate by Stalin, being dismembered in record time. Proof of the power of global knowledge and the aspirations of average people. But we shouldn't exaggerate what is already extraordinary into Utopia. History has not been suspended.

Now, as promised, here's a miscellaneous mix of innovations and political and economic probabilities for the coming decades. It's purposely unmethodical, intended to provoke thinking not resurrect Nostradamus. Watch for:

- The bio-engineering of plants to make more efficient food-production use of the sun's energy through photosynthesis. Also, further genetic engineering to add nitrogen-fixing roots to an array of vegetable and fruit plants, allowing them to partially self-fertilize as the legume plants (peas, beans, lentils) do. Biologists are already at work on nitrogen-fixing grains.
- A new oil pinch that will spur progress on photovoltaic cell efficiency, fusion research (hot and big more likely than cold and in a beaker), and energy-efficient buildings and vehicles. The vehicles will almost certainly include more improved electric cars and delivery vans in urban areas and more natural gas cars.
- Mach-2 air travel (double the speed of sound) and Mach-1/2 trains. Neither environmental concerns nor near-instantaneous global business communication systems will fend off corporate desire for these long-expected transport speedups.
- The start of multiracial South African government, whose black leadership will eventually become the most influential in Africa. Western firms, especially those with good labor and human rights policies, will find a receptive business climate.
- Sporadic but nevertheless real progress at curbing AIDS and drug abuse, largely because of a new generation's health fears. The present crisis is more deep-seated than the late 19th century's similar experimentation with drugs, but the reasons for turning the corner are much the same.
- Less success at curbing nuclear and poison gas missile proliferation, especially in Israel, Syria, Iraq, India, and Pakistan.
- Cars, and their engines, made increasingly of high-strength machined plastics (except, of course, for burlwood dash and leather seats on high-tech upscale models; see Jules Verne story below).
- Japan to continue its accumulation of disposable capital to become at least as powerful in banking/economic terms as Britain or the US at the height of their global power. But European and US competition in world markets should begin to halt the growth of Japanese market share in many global industries.
- More interactive computer instruction to aid science, math, and geography education. One major virtue: allowing students to proceed at a pace to fit their varied learning speeds.
- The globalization of baseball—after all, the two economic superpowers, Japan and the US, are cultural imperialists for the only sport where a balk means you advance.
- Low-energy steel smelting, using a rapid solidification process that can spin out razor-blade-thin steel at the speed of a race car.
- First steps toward space colonization, starting with experiments in closed-cycle, self-sustaining living in orbiting spacelabs.
- Thailand and giant India joining the Asian tigers as economic success stories, despite Thailand's AIDS problem and India's perennial bouts with factionalism and poverty.
- Cuba, Ethiopia, and even Albania joining the stampede away from one-party communism.
- More joint research and development efforts involving two or more nations' firms. Examples: US-Israeli computer-controlled drip irrigation systems for arid regions, Japan-US computer-operated hydroponic greenhouses for growing vegetables in colder climates.
- More firms daring to build the costs of environmental safeguard technology into pricing for their products.
- A quiet struggle of isms in the "one European house"—Roman Catholicism, Protestantism, socialism. At issue: abortion, the role of labor, subsidy politics, and relations with the Islamic world across the Mediterranean and at Russia's back door.

A 1988 launch of Discovery
Photo [illegible]

But enough. That's a random taste of possibilities and probabilities. What must be remembered is that all the surface stuff—the baseball bats and high-strength plastic cars—float on an underlying magma of what we might call the Big Topics. And those big topics are not unlike that classic choice: the lady or the tiger. Open one door and the '90s and beyond are the best of times. Open the other, and...

Because of their ambiguity, the Big Topics are best phrased as questions:

- Will world production and trade increase faster than world population—making a bigger pie of goods and services to slice? One crucial fact here is that about 95 of every 100 children born in the '90s will be born in third-world nations.

- With the poor nations youth-heavy and industrial northern nations graying and experiencing labor shortages, will labor come to where the jobs are? Or will jobs go to where the labor is? North America has generally imported labor via Asian and Latin immigrants; Japan has subcontracted out work to its Asian neighbors as far away as Sri Lanka and Bangladesh. Both the US and

> *There scribbled Verne, a bourgeois French stockbroker living in a world that didn't even believe earth flight was possible, brashly predicting rocket trips to the moon 104 years before they happened.*

the Asian boom states are likely to export work to Latin America in coming decades. Western Europe to East Europe and the Mediterranean shores.

- Will we burn so much fuel to run factories, computers, offices, vehicles, and houses (and obliterate so much carbon dioxide-imbibing vegetation) that we eventually fry the globe's land masses and flood its coastlines and port cities?

- Will the population of those who benefit from the knowledge explosion increase faster than the population of those who are left behind and make easy recruits for the anti-knowledge explosion? (That ranges from the merely uneducated to those embracing the occult, racism, the drug culture, or some destructive form of fundamentalism.)

- Will global television (and all its kindred electronic networks) make irreversible the spread of democracy, freedom of ideas, freedom to travel, free movement of labor, and freedom to compete? Or will "Dallas" and "Wheel of Fortune" in 37 languages become the opiate of the people?

- Will enough of each new generation learn sufficient self-discipline to avoid the excesses of either unproductive hedonism or uncreative authoritarianism? (That means enough self-discipline to demand that their children be basically well educated, to save more than they borrow, to require that both politicians and consumer products live up to their promises or be dropped.)

- Will people of all cultures gain the kind of spiritual underpinning that provides both individual stability and concern for the larger human family?

If history is any guide, none of these giant either/or questions will be answered decisively. The knowledge explosion and movements to reverse it or escape it will, for instance, continue to develop in tandem. Recognizing this, realists among government leaders and educators simply aim to expand the portion of the population that benefits from and understands the new knowledge. That's the only way their nations will remain competitive in the world of the next century. Skeptics would say, rightly, that such a pragmatic approach is merited, because much of the "new knowledge" is provisional anyway and should be treated as such, not enshrined as dogma.

Nor is the global communications explosion likely to be a carrier only of the winds of freedom. Both gold and dross are circling the globe—Adam Smith, Tiananmen Square, Geraldo Rivera, the riddled Berlin Wall, Vanna White, Fidel Castro, Baryshnikov, and Texas chain saw massacres. Docudramas cloud documentaries. Data banks are storing more information about more subjects than the Library at Alexandria to the hundredth power. But they are also, inevitably, storing misinformation and obsolete information. And even the most educated citizens have less and less time to probe the memory banks for all the gold that is available.

By now you may be impatiently muttering that you know the Big Topics and they have remained largely the same for years, some of them for centuries. I mention them as one more reminder that what's most important in history often fits Ecclesiastes' no-new-thing-under-the-sun dictum. And also to remind us that future-forecasting is a risk-prone business at best.

How else can you explain why one noted economist predicts in convincing detail that an era of prosperity and a 4,000 Dow are just around the corner and another equally noted economist predicts a global depression? Fortunately, there's nothing about the futurology trade that the future won't cure. The problem is there are too many variables even for economists with the biggest computer models to know how the whole Rube Goldberg contraption is going to work from year to year. But that's no reason for despair. The 4,000 Dow economist is probably right in the long run, even if we dip through a recession to get there.

As we look back over history, two things are clear. (1) The pluses outweigh the minuses; mankind has progressed. But (2) no generation has put things in such clockwork order, morally or logistically, that it leaves future generations with little to wrestle with. As the articulate paleontologist Stephen Jay Gould argues, history is both time's arrow and time's cycle. It repeats certain themes and variations (seldom the exact melody again) in cycles, but it also moves forward like an arrow. "Forward" does not guarantee moral ascent or even improved individual value of life, merely increased knowledge with which to acquire (or ignore) wisdom.

The kind of forecasting and advance planning that all the ministries and think tanks (and this column) are venturing at this moment mimics the bumbling forward of history. It gets many details wrong, but it generally moves us forward. It does so by forcing us to make use of the highly developed human capacity to think rationally and plan ahead.

A final example, drawn from history, makes the point.

In 1865 Jules Verne wrote his classic novel "From the Earth to the Moon." It was a sci-fi triumph. There scribbled Verne, a bourgeois French stockbroker living in a world that didn't even believe earth flight was possible, brashly predicting rocket trips to the moon 104 years before they happened. A big step for fiction, a small step for mankind.

But his publisher decided to add pictures. And Verne's illustrator didn't have what George Bush calls the vision thing. The artist drew Verne's boldly imaginative rocket flight in stolid, earthbound fashion, making it look for all the world like a Paris-Lyon steam train with first- and second-class carriages, velvet plush seats, and brass gaslights.

The forecasting business has always been thus. Win some, lose some. But one forgives the gaslights if the broad concept of getting to the moon inspires future humans to act.

AN AMERICAN VISION FOR THE 1990s

■ by the Staff of FORTUNE

SIXTY YEARS. An era. An adult lifetime. If you want to grasp how long it has been since FORTUNE was launched, just consider: In 1930 fewer than 50,000 cars traveled the roads of Japan—94% of them Made in America. Penicillin was yet to be purified and put to general use. Television had not been invented. Nor jet planes, electronic computers, radar, xerography. We had sex, of course, but not much in the way of drugs, and nothing resembling rock-and-roll.

In this article FORTUNE's staff will not attempt to predict the next 60 years. That would be too easy; who, after all, would remember what we said come the year 2050? Instead, we offer our best estimate of what to expect from today until the year 2000—in politics, in the economy, in science, and in society at large.

During the 1990s and for some time beyond, the U.S. will remain the world's only true superpower. But consider for a moment the implications of that word. We emphatically do *not* mean that America will command this position by brandishing its military might. Yes, U.S. arms are still the world's strongest, and welcome among friends who seek to preserve the peace in Europe and Asia. But the U.S. does not, and should not, relish the role of global cop and principal bankroller for the Western alliance. Its very success, crowned by the crumbling of Communism from Czechoslovakia to Nicaragua, entitles it to lay down part of this costly burden. The enemy has grown less menacing, the allies more capable.

America's true strength will be found elsewhere. The U.S. remains by far the world's most vigorous economy (with a GNP of $5.2 trillion, more than 40% larger than Japan's). It is the biggest market for foreign goods, the biggest magnet for foreign capital, the biggest investor overseas. In Europe alone, Americans spent $15 billion buying companies last year, nine times as much as the Japanese.

Though its export performance is often decried and indeed isn't what it should be, the U.S. still runs neck and neck with West Germany as the volume leader. America's share of global markets no longer approaches 50%, as it did when Europe and Japan were dragging themselves off the mat in 1950. But the present share, 20% to 25%, is as large as it was in the more normal years of commerce before World War II—and where it has stood since the early 1960s.

AMERICA'S CONTRIBUTION to the world will continue to be in the realm of ideas and ideals. Military strength contained Communism, yes, but what vanquished it, what showed it up as the hopelessly hollow box that it was, was an idea—liberal democracy—and its phenomenally successful application in America, Europe, and Asia.

Scientific ideas are traveling fast too. The world now stands on the verge of transformational developments in molecular biology and computers. Ralph Gomory, former head of research at IBM and currently president of the Alfred P. Sloan Foundation, predicts with "total confidence" that computers will become 100 times cheaper in the next two decades. This means that most of the information revolution is still ahead of us. In the 1990s and beyond, thinking machines will process more information faster, affecting our lives more intimately and pervasively than we can now imagine.

Coming breakthroughs in biology deal with information processing of a different type. Practitioners of this

PHOTOGRAPH BY ANDY LEVIN

v science are unraveling the mysteries of DNA, the croscopic threadlike tape holding the coded informa-tion that dictates the structure and function of living things. This will lead to an unprecedented understand-ing of how man, animals, plants, and microorganisms function. That knowledge will then be used to make products and to create whole new industries that don't exist today.

These and other developments will find their way into practical application through the initiative of feisty entrepreneurs and multinational behemoths. America is famous for creating both. Some 685,000 businesses were born in the U.S. last year, most quite ordinary of course, but many founded on original ideas. Global corporations, purveying the goods and services that help people lead better lives, will continue to project American power in the years ahead. Operating out of sheerest self-interest, they can be a surprisingly effec-tive force for progress. At their best, they hire and promote on the basis of merit and invest on the basis of potential, while governments too often bestow their favors—a subsidy here, a le barrier there—on basis of narrow political advantage.

For all its many shortcomings, America promises to remain a beacon for immigrants. Since 1970 it has taken in more of them than the rest of the world combined. In the 1980s the inflow was the largest of any decade of the century—around 650,000 last year (not counting illegal entrants). In the 1990s the U.S. will be wise to admit even more skilled people. This will bring profound economic benefits, for immigrants carry with them creativity and energy—both particularly important in an information age when competitiveness depends on the qual- of a nation's brains. igrants also tend to

Still the promised land: Evelina

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be young, one reason the U.S. in the 1990s will have the most youthful, and potentially most productive, work force in the industrialized world.

As America's 76 million baby-boomers age, they will exert their accustomed influence on the shape of society. With the oldest of them now 44, growing numbers will go through the personal changes common to people who arrive at midlife. The desire for independence, for control of one's time, for a more balanced life, will become a prime value. Increasingly, boomers fantasize about quitting the large corporation and starting businesses of their own. How will corporations manage people who think like that? By giving more than lip service to the idea that employees need autonomy, higher rewards for performance, and an enriched sense of purpose.

Successful companies will constantly learn and adapt, restructuring radically if necessary. That means more than cost-cutting, a lot more. It means delivering on the promise of participatory management, allowing employees a say in how the organization is designed, how work is assigned, how they are compensated. The latest studies of business show that providing workers with a sense of participation increases productivity far more than incentive pay. Turning employees loose to figure out the best way to do the job can lead to double-digit surges in output.

FORTUNE's staff economists forecast that the U.S. economy will grow an average of 2½% to 3% a year during the 1990s, about the same as in the 1970s and 1980s. Contrary to popular wisdom, America is not sliding into a hamburger-flipper economy. Industrial production will expand at roughly the same rate as real GNP (40% of which is in manufacturing). We anticipate inflation averaging 4½% to 5% a year during the decade—dreadful com-

[illegible], 4, a recent immigrant from Poland

pared with the 1½% to 2% of the 1960s but not much worse than it has been lately. As import competition lessens, profits will grow faster than nominal GNP, about 10% a year. The trade deficit is likely to shrink—helped by a decline in the dollar of some 10% in the next few years—but it will not disappear. With the Social Security surplus counted in, the federal budget deficit will probably diminish to zero by the year 2000.

WILL RECESSION STRIKE during the decade? Yes, at least once. We have not repealed the economic cycle. And the Federal Reserve may well raise interest rates to fight inflation, edging the economy into decline. Trouble is, the present weight of corporate and personal debt could turn a recessionary gully into the Grand Canyon.

The overleveraging of American corporations will take years to set straight. Many leveraged buyouts will drift into Chapter 11, and defaults on junk bonds will continually make news. The time to repent is nigh: Look for a decline in the number of new LBOs and financially engineered hostile takeovers.

In the past few months major corporations have grown fearful of debt. We are entering a period in which equity capital and financial solidity will be prized. Companies will reduce leverage by squeezing dividends and building up retained earnings. The junk bond market will remain shaky, and traditional, conservative lenders—insurance and finance companies—will regain the power they had lost to the purveyors of junk. For borrowers that will mean tighter money and tougher terms.

America's greatest challenge will be one of values. The U.S. has its own Third World country within its borders: an increasingly deprived, separated, and self-perpetuating underclass—mostly but certainly not entirely black and Hispanic. With homelessness, poverty, violence, drug addiction, inadequate health care, and the well-known woes of its education system, America presents an ugly face to the world. Many Europeans and Asians feel there is little they have to learn from the U.S.—and much that it could learn from them—about combining a more civil society with economic prosperity.

The economic growth foreseen by FORTUNE's economists will not do much by itself to lessen poverty. So how do we break the heart-rending cycle of multigenerational destitution? Do we resort to totalitarian acts, taking children away from unfit mothers and unhealthy environments? Who will judge a mother's fitness? Who will provide a better environment? But if we do nothing, how will we change the nation-sapping cycle of self-destructive behavior?

We at FORTUNE value free markets but recognize that they alone cannot solve this American dilemma. Taking some first steps will require government incentives and government spending. On the basis of what we know now, more money would be well allocated to Head Start, housing vouchers, and tax credits for the working poor, to name a few programs. But we still have much to learn about what will work and what will not, how to help the needy without destroying their will to help themselves.

In the international political ferment now boiling, this search for the proper balance between security and risk taking, dynamism and the welfare state, reaches far beyond America's borders. Many who sought refuge in Communism years ago did so in hopes of finding a way to ameliorate what they saw as capitalism's cruel injustices. That Communism failed them does not imply that their complaints were hypocritical or their motives insincere. Now as ex-Communist nations grope their way toward liberal democracy, the danger is that in their euphoria they will expect democracy to do too much—and give up too easily. Simple totalitarian solutions can exert an irresistible pull on the desperate.

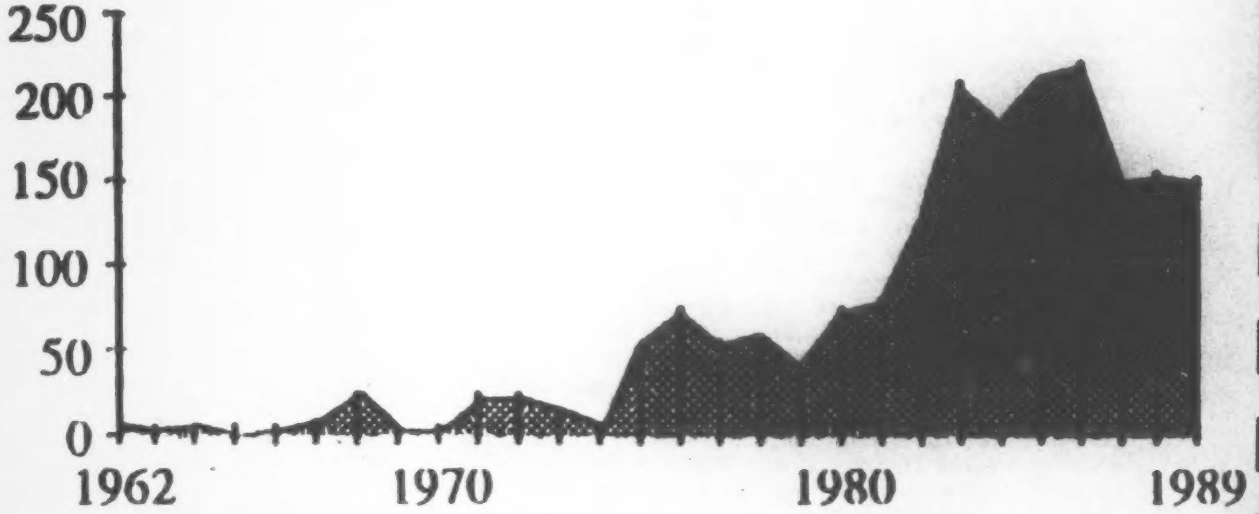
PERHAPS AMERICA'S richest gift to the rest of the world now would be to show that racial and ethnic harmony can work, that the relatively affluent 85% of society can help lift the 15% who remain poor, often despondently so. This will require a deeper sense of community, more Americans working together with values that are inclusive, nurturing, and caring, as opposed to competitive, individualistic, and selfish.

When FORTUNE began, America had a vision—in fact, it has had many visions over the years. Most have been realized, some beyond our wildest dreams. Americans pulled out of the Depression and helped defeat fascism. They carried the banner of democracy and helped spread affluence around the world. They have done much to win the Cold War and to inspire Communist nations and Third World states to search for their own forms of social democracy or market capitalism, to find the kind of society that would encompass the advantages that the U.S. clearly has, along with the social safety nets it has not yet learned to design.

So what is the American vision now?

To get on with the work of building a society that is open, diverse, pluralistic, and free. A society that is nonracist and nonsexist but believes in equality of opportunity, not equality of result. We spent much of the 20th century saving a decaying old world order from its pent-up pathologies. If we are wise, we can move ahead in America's third century by addressing our unmet social needs and promoting economic health at home while remaining first among equals in building a new—and free—global political order. ◼

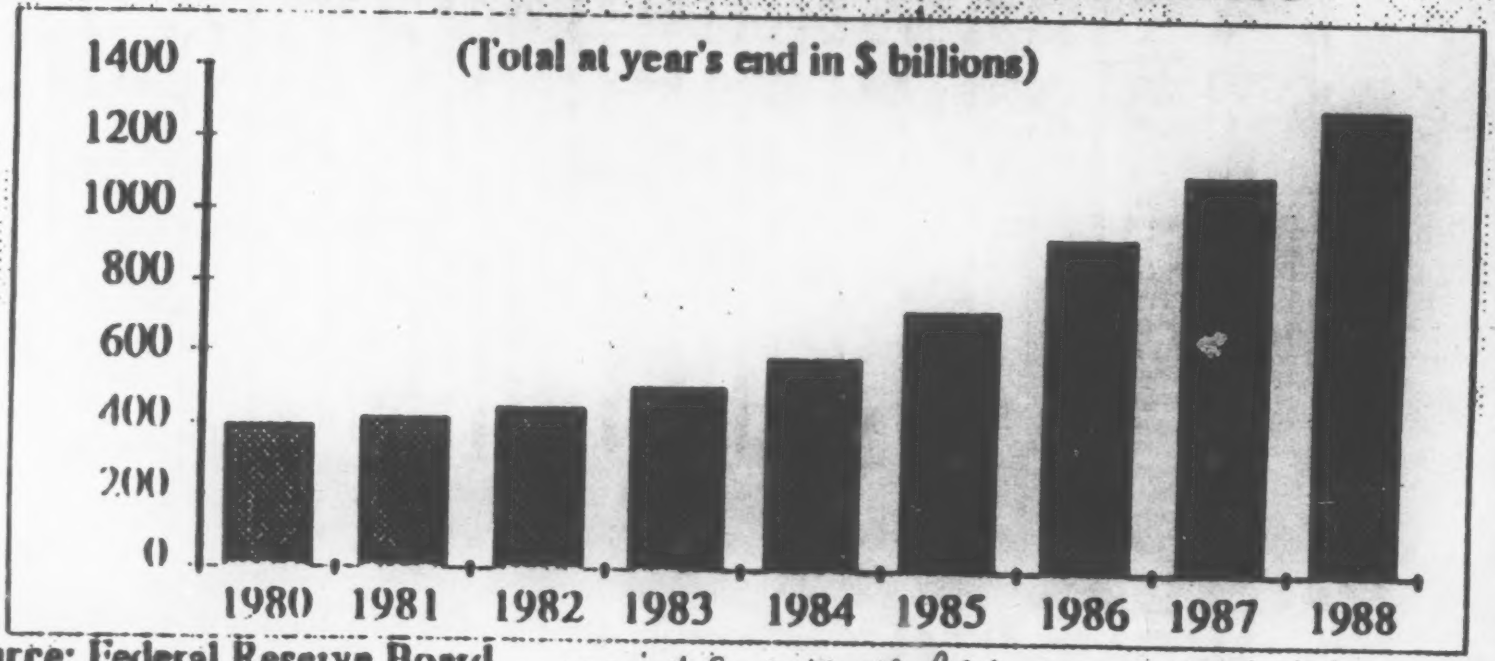
The Federal Deficit (in $billions)



Source: Congressional Budget Office

Youth Policy March 1990

Foreign Investment in the United States



Source: Federal Reserve Board

reprinted in *Youth Policy* March 1990

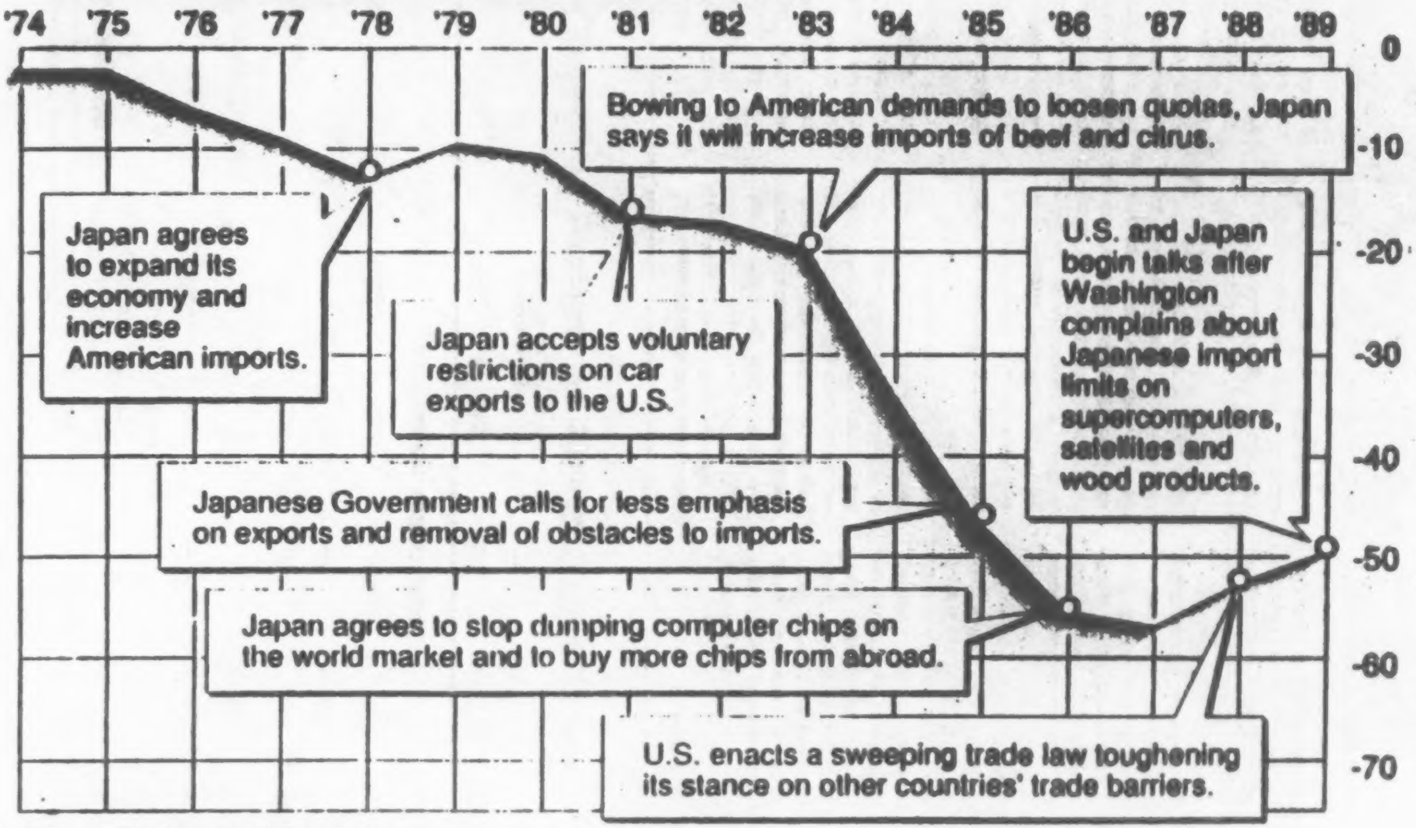
THE UNITED STATES AS A DEBTOR NATION: 1980-1992

Year	United States Net Foreign Debt
1980	$95.10 billion
1981	129.99
1982	125.73
1983	78.48
1984	-7.46
1985	-122.97
1986	-274.63
1987	-453.46
1988	-591.65
1989 (Projection)	-706.52
1990 (Projection)	-830.93
1991 (Projection)	-966.52
1992 (Projection)	-1,104.88

Source: *United States External Adjustments and the World Economy*, by William R. Cline, Institute for International Economics, Washington D.C., 1989, p. 94-95.

Nice tries

The United States trade deficit with Japan has not narrowed, despite periodic efforts to reduce it. The gap is shown in billions of dollars, on scale at right.



Japan agrees to expand its economy and increase American imports.

Japan accepts voluntary restrictions on car exports to the U.S.

Bowing to American demands to loosen quotas, Japan says it will increase imports of beef and citrus.

Japanese Government calls for less emphasis on exports and removal of obstacles to imports.

Japan agrees to stop dumping computer chips on the world market and to buy more chips from abroad.

U.S. and Japan begin talks after Washington complains about Japanese import limits on supercomputers, satellites and wood products.

U.S. enacts a sweeping trade law toughening its stance on other countries' trade barriers.

Source: Department of Commerce

NY Times 2-13-90

Clouded Economy Prompts Colleges to Weigh Changes

Unprecedented interest seen in private-sector strategies

1/31/90

By KAREN GRASSMUCK

Officials of both public and private universities across the country are bracing for an unfavorable economic climate in the 1990's.

Predictions that the mounting federal deficit will block increases in public financing are causing worry, and talk of a possible recession also contributes to the economic cloud that hovers over higher education's view of the next decade.

As a result, numerous colleges are beginning to make changes that borrow heavily from the transformations that swept American industry in the 1980's, when stiff foreign competition forced many corporations to streamline their operations or go under.

As if torn from the pages of a marketing textbook, terms like "customer orientation," "market niche," and "client relations" are creeping into the lexicon of college administrators with increasing frequency.

Chron. of High Ed

Spiraling Prices for Lab Equipment

Colleges have borrowed cost-cutting methods from the government and the private sector on a piecemeal basis in the past, but experts in finance say an unprecedented interest in private-sector strategies is now sweeping higher education as administrators seek a formula for assuring their colleges' financial viability through the end of the century and beyond.

Judging by the seriousness of the challenges ahead, colleges may need all the help they can get. Spiraling prices for laboratory equipment and facilities are raising

The U.S. Stake in Reunification

NY Times 4-1-90

Associated Press

By JOHN J. LAFALCE

THE coming unification of Germany — a virtual certainty in the aftermath of last month's first free Parliamentary election in East Germany — provides the United States with a major opportunity to take commercial advantage of Central Europe's sudden opening to the West.

In the short term, East Germany itself will remain an expanding market for American goods. This is the clear impression I received in numerous talks with East Germany's new entrepreneurial class while visiting Berlin earlier this year. There are already favorable portents. Within the last week, a French-American telecommunications company announced plans to overhaul East Germany's outdated telephone network, and General Motors Corporation and Automobil-Werk Eisenach, East Germany's largest auto maker, will form a joint venture which could ultimately produce 150,000 cars annually.

By moving into East Germany today, American companies will also improve their competitive position within the European markets of the future — beginning with Central Europe. Experts believe that once a large volume of West German capital begins flowing into the eastern part of the country, today's East Germany could become what South Korea and Taiwan have become for Southeast Asia: a dynamic region of export-driven growth. Similar considerations apply to the European Community. A stronger American market position in East Germany today virtually guarantees America a stronger competitive position in the integrated European market after 1992.

But how do we get from here to there? Achieving a stronger American position in a unified German market will require much stronger policy direction from Washington. Broadly speaking, Congress must press the Bush Administration to make good on its oft-repeated commitment to remove a crippling array of legal obstacles that continue to weaken our competitive position throughout Central Europe and the Soviet Union. East Germany's uncertain status has not prevented our West German, French or Italian allies from providing appropriate measures of export finance and political risk insurance to their firms. We should do no less. Both the Export-Import Bank, which just a few days ago qualified Czechoslovakia to participate in its programs, and the Overseas Private Investment Corporation should be moving into the East German market without further delay.

Congress should also insist on radical changes in our self-defeating export control policies. At last month's Coordinating Committee for Multilateral Export Controls — called Cocom — meeting in Paris, for example, the United States for the first time agreed that companies no longer need export licenses to sell high-tolerance machine tools, 32-bit microcomputers and a range of telecommunications equipment to the rapidly dissolving Eastern Bloc. Far bolder American steps are required.

THE first order of business for Congress is to hold the Administration to its promise to significantly reduce the number of so-called "off the shelf" — easily available — items which inexplicably remain on Cocom's commodity control list and could with little difficulty be successfully marketed in East Germany. Simultaneously, the United States should accelerate multilateral efforts to reduce drastically the number of truly strategic goods we wish to remain on the Cocom list.

Thinking about future American initiatives toward East Germany raises the inevitable question of how long and under what conditions we will be able to conduct negotiations with an existing East German Government.

This is a matter over which Washington has little, if any, influence. The most plausible assumption is that Bonn will continue to treat East Germany as a separate economic entity for the foreseeable future. Far from discouraging an active American presence in the eastern part of the country, a variety of geopolitical and economic considerations suggest that, if anything, Bonn will favor an expanded American commercial presence in that part of the country.

A unified Germany has vast commercial potential — if we are ready to exploit it.

To facilitate contact, both East Germany and the United States need to dispose of some old business. On the East German side, the new conservative coalition should accelerate efforts to settle material claims by American citizens for property appropriated by the Communist authorities 40 years ago. Similarly, East Germany needs to acknowledge forthrightly its responsibility for crimes against the Jewish community during the period of the Third Reich and make appropriate financial amends. Combined with recent steps to liberalize emigration procedures, the above East German actions should in turn enable the Administration and Congress to take the second logical step by granting most-favored-nation treatment to East Germany, as Japan, Sweden and the European Community have already done. Taking such a step at this critical time would go a long way toward putting our commercial relations with a unified Germany on a new, more profitable footing. The stakes, to put it mildly, are huge. ■

John J. LaFalce, Democrat of New York, is a member of the House Banking Committee and chairman of the House Banking Committee Task Force on the International Competitiveness of U.S. Financial Institutions.

Third World Increasingly Dependent on Imported Grain

Perhaps the best indicator of long-term shifts in food production relative to demand can be seen in the changing geographic pattern of world food trade. In 1950, most of the grain in international trade flowed from North America to grain-deficit Western Europe. The rest of the world was essentially self-sufficient. That has changed dramatically in recent decades. Since mid-century, North America has increased its grain exports more than fivefold, from 23 million to 119 million tons, emerging as the world's breadbasket.

Latin America became a grain-deficit region in the 1970s, with net imports of roughly 11 million tons by 1988. Despite a vast land area, Brazil now regularly imports both wheat and feedgrains. These imports plus those of Mexico, with its growing food deficit, and of several smaller countries more than offset exports from Argentina.

Africa, a largely agrarian continent beset by environmental deterioration and a record population increase, has become heavily dependent on imported grain as it tries to offset a two-decade decline in per capita production. Countries in the northern tier — Egypt, Libya, Tunisia, Algeria, and Morocco — now bring in half the grain they consume. Even with continental imports of an estimated 28 million tons in 1988, millions of people in sub-Saharan Africa were left hungry and malnourished, some on the verge of starvation.

The combination of a small and shrinking cropland area per person and rising prosperity in many countries has made Asia the leading food-importing region. Its purchases surpassed those of Europe during the mid-1960s, and all indications are that they will continue to rise during the 1990s and beyond.

Eastern Europe and the Soviet Union, which were importing at record levels in the late 1970s and early 1980s, are slowly reducing their dependence on outside grain. Whether they reach self-sufficiency will depend heavily on the success of Soviet agricultural reforms.

Western Europe is perhaps the most interesting regional story. In the early 1980s, it ended two centuries of dependence on imported grain, a dependence that began with the Industrial Revolution and the exchange of manufactured goods for food and raw materials with the rest of the world. Steadily advancing farm technologies, farm-support prices well above the world market level, and a population growth rate that is approaching zero have combined to push the region's net exports above those of Australia.

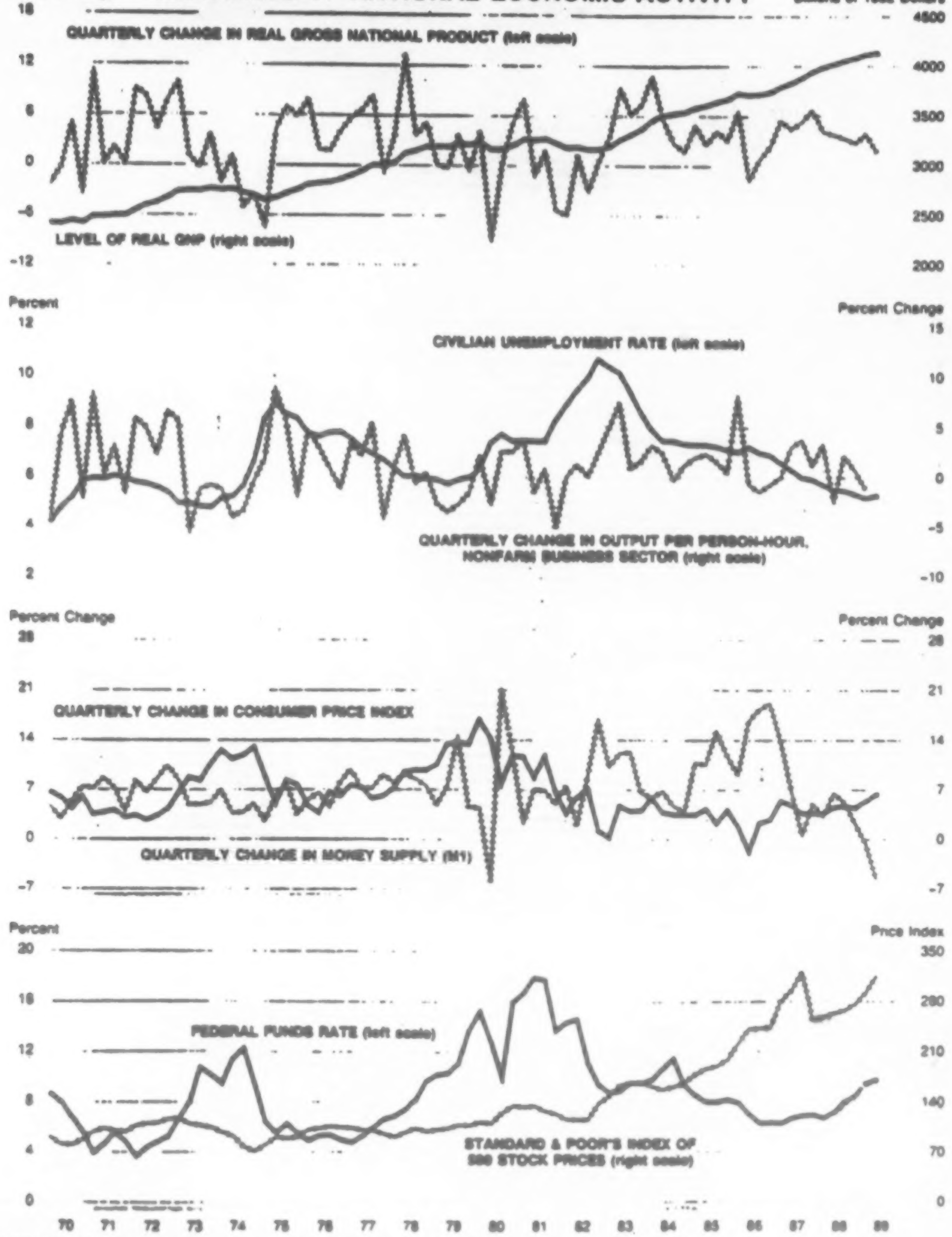
— Lester R. Brown

The Changing Pattern of World Grain Trade 1950-88[1]

Region	1950	1960	1970	1980	1988[2]
			(million metric tons)		
North America	+23	+39	+56	+131	+119
Latin America	+1	0	+4	−10	−11
Western Europe	−22	−25	−30	−16	+22
E. Europe and Soviet Union	0	0	0	−46	−27
Africa	0	−2	−5	−15	−28
Asia	−6	−17	−37	−63	−89
Australia and New Zealand	+3	+6	+12	+19	+14

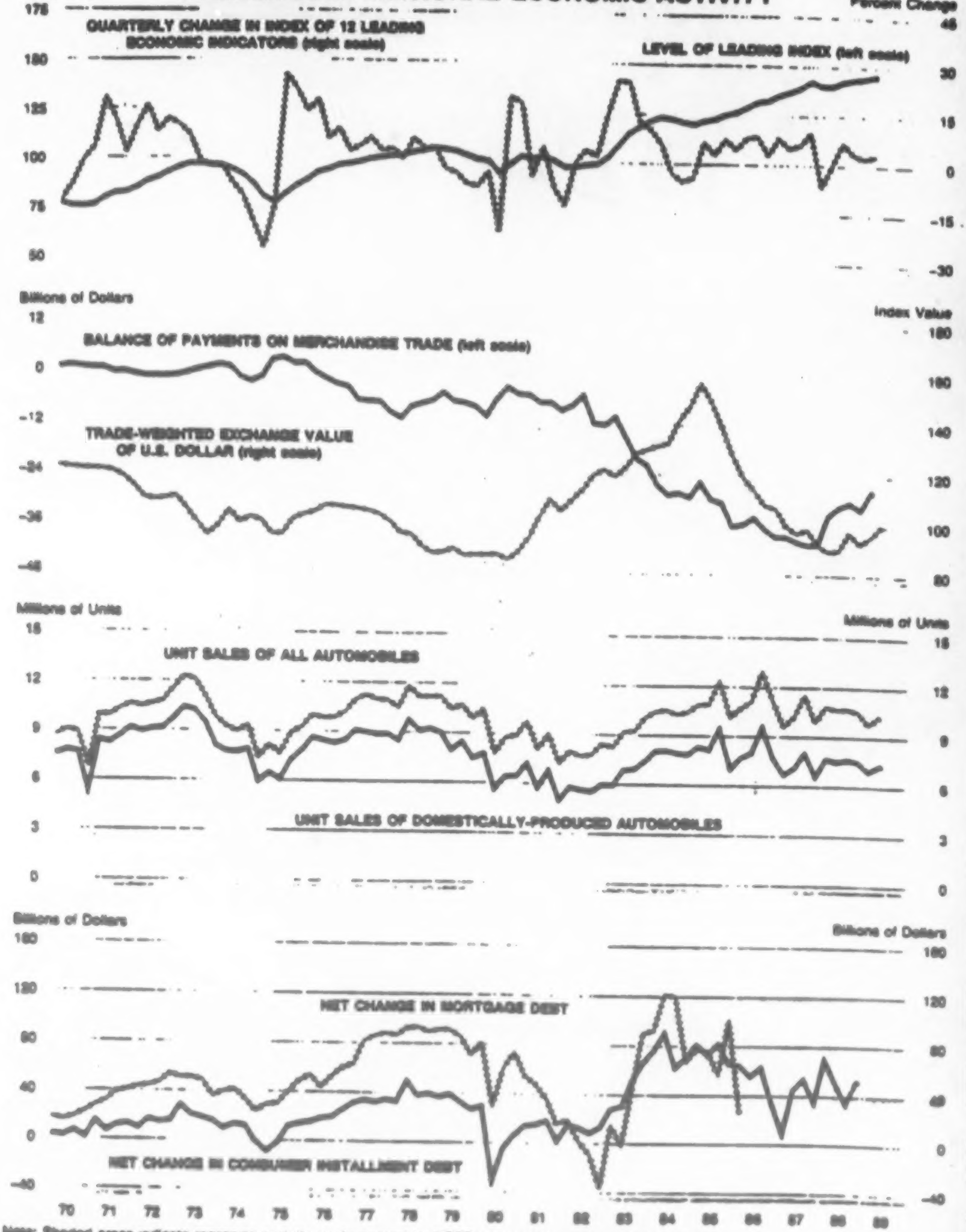
[1] Plus sign indicates net exports; minus sign, net imports.
[2] Preliminary.
Sources: U.N. Food and Agriculture Organization; U.S. Department of Agriculture, Foreign Agricultural Service.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



Note: Shaded areas indicate recession periods as design[illegible] by NBER; percent changes are at annual rates.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

TECHNOLOGICAL

Technology

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A Bright Future for Photonics

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FUTURE SURVEY

EXECUTIVES

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FUTURE SURVEY

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Hypergraphics: "The Classroom of the Future"

by JIM WILSON

The self-learning approach has been used for most of the practical research in, and applications of, computer-based training. That approach, which has been favored even for interactive video, entails a one-on-one interaction between student and computer. Thus it is not only capital-intensive (requiring one computer per student) but also demands that students be self-motivated enough to work on their own.

There is an alternative: Computer technology can be used within the existing classroom environment to support rather supplant the instructor. One such application of the technology is now being implemented in schools and corporate training facilities throughout the country. It is called Hypergraphics—The Classroom of the Future. Hypergraphics uses the capabilities of computer technology to implement the key features of effective classroom instruction. Thus, before we explore Hypergraphics in detail, we should briefly examine the key characteristics of classroom instruction.

What Works and What Doesn't

From time to time, we are all condemned to sit through interminable lectures that induce near-terminal boredom. During those torpid times, our minds wander and we acquire little from the presentation except mental numbness. Even with good lectures that use effective graphic overhead transparencies and other aids, our attentiveness drops after 20 minutes or so. We can all attest that time-efficient the lecture may be, but learning-effective it is not. All the same, because a lecture presentation allows the instructor to deliver a maximum of information in a minimum of time, lecturing is the predominant form of instruction.

True, a presentation may catch fire when the instructor jumps from the lecture groove and launches on a question-and-answer session, or opens the topic to classroom discussion. But the fire is easily dampened if a few students blanket the discussion or if many students sit back rather than take part in stoking the fire. Moreover, discussion or question-and-answer techniques take far more time to present and cover a given amount of information. The instructor must also have an expert's skill in moving the flow of information in the required direction and ensuring the participation of everyone.

We know from our experiences as both students and instructors that the key to any learning situation is a high level of audience attentiveness. To maximize attentiveness is to maximize how much is learnt and how much is retained. Ideally, that would be done in a way both inexpensive and quick.

We need visually interesting materials that are effective in presenting concepts, and also some way to keep each student actively learning. Additional factors that enhance student attention include smooth, well-organized presentations, and superlative questioning techniques.

All the factors mentioned can be supported by computer technology. Eye-catching graphics can be generated by computer and further enhanced by animation. Participation can be maximized by constantly getting the student to answer questions. A presentation can be exceptionally well-organized in terms of sequence and branching, and can come loaded and ready with precisely prepared questions, because the computer can be programmed beforehand. That is what the Hypergraphics system—its hardware and software—has been designed to do.

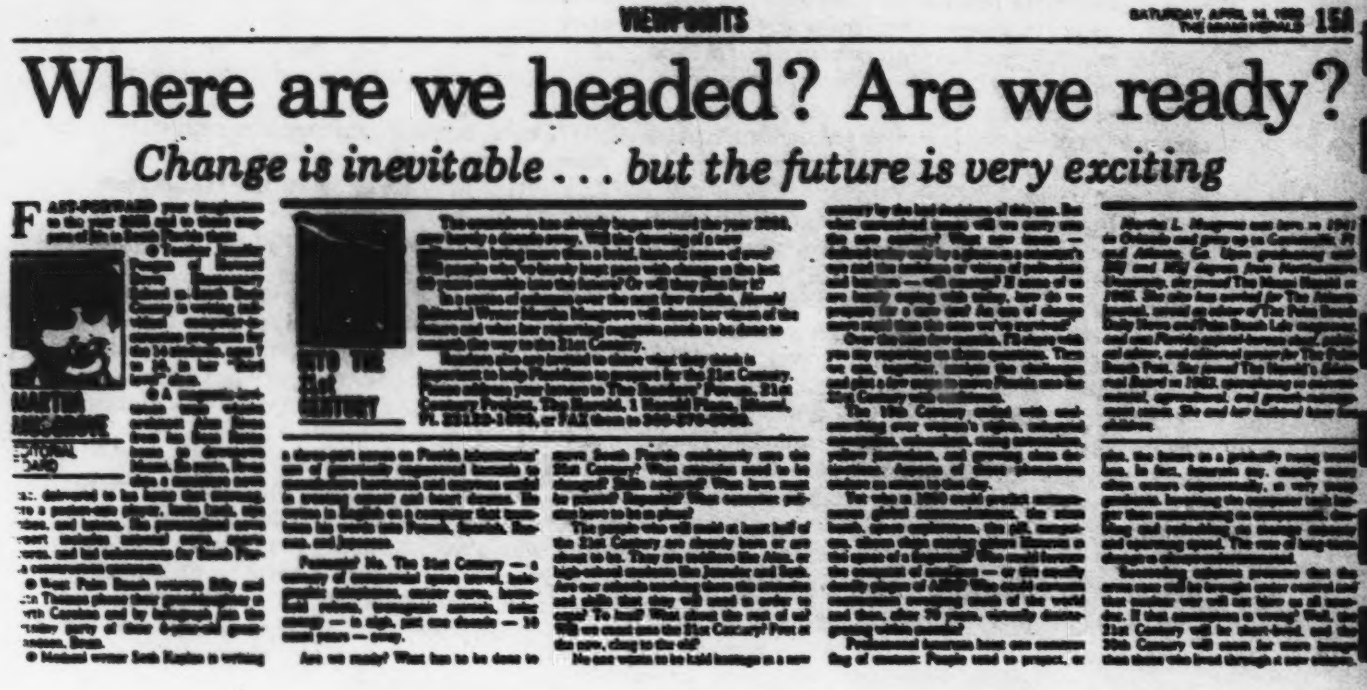
The Components

The hardware, illustrated in Figure 1, consists of a PC-compatible, an overhead projector with an LCD projection panel, an instructor's remote-control device, and provision for responses from each student.

The software assists the instructor in delivering the lesson material. The material is presented a step at a time, via the overhead projector. The instructor can move to any part of the material in any direction. In addition, the students are tested on the subject-matter

(continued on page 66)

March 1990

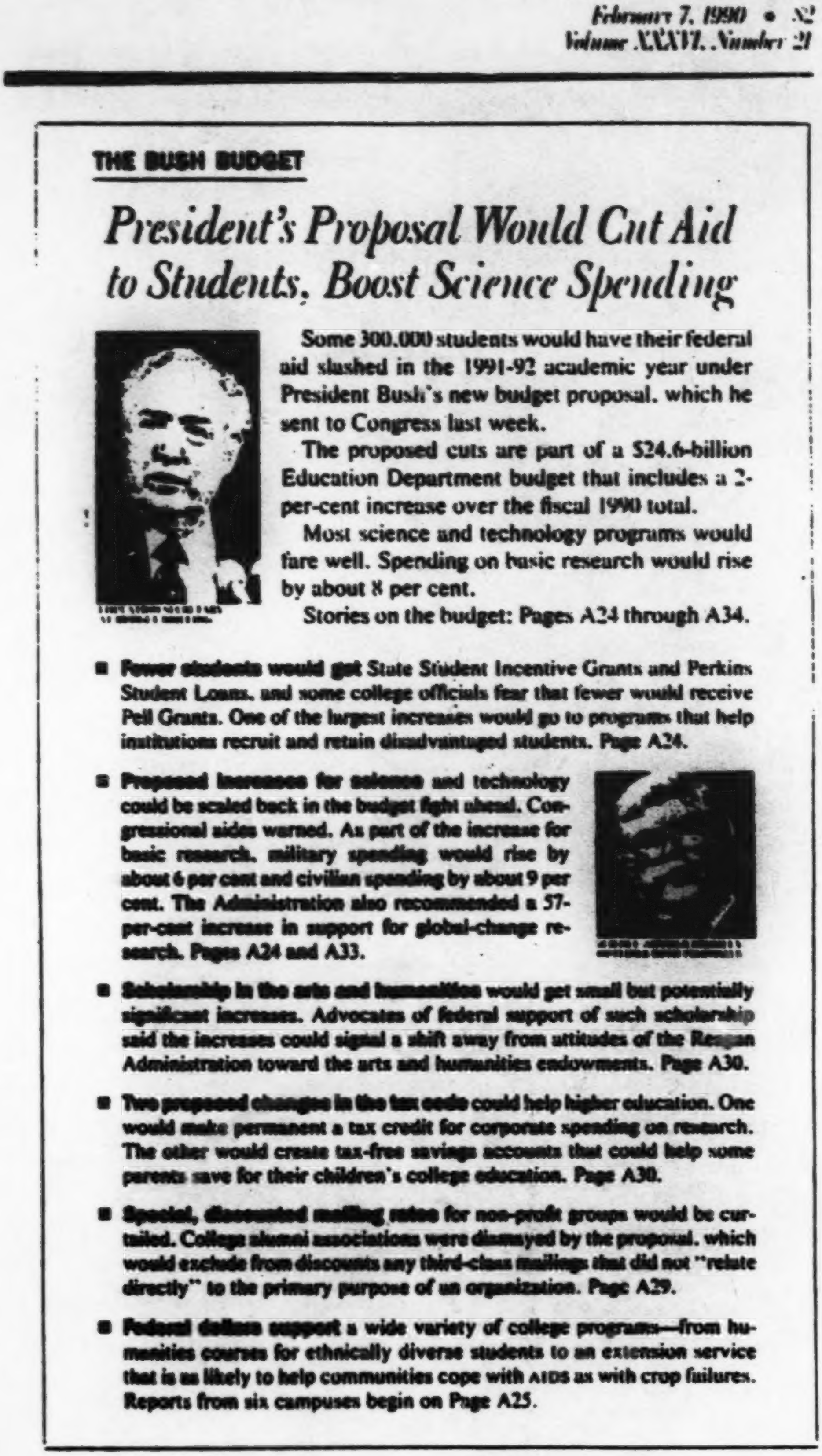


VIEWPOINTS

Where are we headed? Are we ready?

Change is inevitable . . . but the future is very exciting

POLITICAL



February 7, 1990 • $2
Volume XXXVI, Number 21

THE BUSH BUDGET

President's Proposal Would Cut Aid to Students, Boost Science Spending

Some 300,000 students would have their federal aid slashed in the 1991-92 academic year under President Bush's new budget proposal, which he sent to Congress last week.

The proposed cuts are part of a $24.6-billion Education Department budget that includes a 2-per-cent increase over the fiscal 1990 total.

Most science and technology programs would fare well. Spending on basic research would rise by about 8 per cent.

Stories on the budget: Pages A24 through A34.

- **Fewer students would get** State Student Incentive Grants and Perkins Student Loans, and some college officials fear that fewer would receive Pell Grants. One of the largest increases would go to programs that help institutions recruit and retain disadvantaged students. Page A24.
- **Proposed increases for science** and technology could be scaled back in the budget fight ahead, Congressional aides warned. As part of the increase for basic research, military spending would rise by about 6 per cent and civilian spending by about 9 per cent. The Administration also recommended a 57-per-cent increase in support for global-change research. Pages A24 and A33.
- **Scholarship in the arts and humanities** would get small but potentially significant increases. Advocates of federal support of such scholarship said the increases could signal a shift away from attitudes of the Reagan Administration toward the arts and humanities endowments. Page A30.
- **Two proposed changes in the tax code** could help higher education. One would make permanent a tax credit for corporate spending on research. The other would create tax-free savings accounts that could help some parents save for their children's college education. Page A30.
- **Special, discounted mailing rates** for non-profit groups would be curtailed. College alumni associations were dismayed by the proposal, which would exclude from discounts any third-class mailings that did not "relate directly" to the primary purpose of an organization. Page A29.
- **Federal dollars support** a wide variety of college programs—from humanities courses for ethnically diverse students to an extension service that is as likely to help communities cope with AIDS as with crop failures. Reports from six campuses begin on Page A25.

2A

INSIGHT

Ocala Star-Banner
4/16/90

Doctor links pollution to Down syndrome

By Keith Schneider
The New York Times

PAMPA, Tex. — An unusual number of Down syndrome births in this industrious little city has propelled an investigation of pollution and set up the country's first legal test of an emerging medical theory that toxic chemicals could cause the birth defect.

The Texas Department of Health and the Federal Centers for Disease Control reported four years ago that the rate of Down syndrome children born to young women here was "significantly more than expected."

The investigators could not identify a cause.

Separately, a lawyer suing a Hoechst Celanese chemical plant where a 1987 explosion killed three workers and injured 37 others has uncovered evidence that the plant for years spewed toxics into the air and contaminated the region's principal source of drinking water.

This month, in a report supporting the lawsuit, a prominent pediatrician in the region linked the two sets of findings.

The report said that "in all medical probability," the number of Down syndrome cases "is related to the environmental pollutants from the Celanese site."

But Brent C. Stephens, the plant manager, said experts hired by Hoechst Celanese have considered the reports and rejected the conclusions that the pollution was a factor in any health problems.

Stephens said there was no scientific evidence supporting the assertions that illnesses and birth defects were caused by the enormous plant, which was rebuilt and reopened almost a year ago.

And other specialists say the theory linking pollutants to Down syndrome, which affects mental and physical development, is little more than speculation.

"There is nothing in the published literature that supports this contention," said Dr. Philip Guzelian, the head of clinical toxicology and environmental medicine at the Medical College of Virginia in Richmond.

"It is pretty clear there is no evidence for any environmental cause for Down syndrome," he said.

But even strong doubts have not swayed the pediatrician making the allegation.

That doctor, Gerald H. Holman, a former associate dean of the Texas Tech Medical School in Amarillo, 55 miles west of Pampa, cited experts in the United States and Canada who have developed new theories about the causes of Down syndrome, which occurs when a genetic accident results in three copies of a particular chromosome.

Holman said in an interview this week that the biochemical reactions that guide the development of genetic material in the sperm and egg before and immediately after conception could be disrupted by toxic pollutants and result in Down syndrome.

Holman also noted that laboratory tests in which animal cells are exposed to toxic chemicals have produced genetic changes similar to those in Down syndrome.

Pampa, a city of 20,000 spread across ground so flat and open it looks like a calm ocean, seems an unlikely place for such a complex legal and scientific dispute.

Since it was founded at the turn of the century, Pampa has steadily provided America with the bounty of its fields and factories: wheat and beef, gasoline and gun barrels and an array of industrial chemicals.

TOMORROW

The right's on a roll around the world

by MICHAEL BARONE and DAVID R. GERGEN

Only a few months ago, parties of the left were riding a crest of popular support toward election victories around the world. But suddenly their wave has crashed, and it now appears that parties of the center right have a good chance for continued dominance of politics for the rest of the century. The results are helpful to American security and economic interests.

In Brazil, a leftist challenge lost momentum in the closing weeks of the campaign, and the candidate of business, Fernando Collor, was elected President in December, 1989. In Japan, the Socialists seemed ready to end the Liberal Democratic Party's 40-year reign, but fielded so few candidates that the LDP rebounded. In West Germany, analysts thought a red-green coalition (the Greens and Socialist parties) could dislodge Helmut Kohl's center-right coalition this fall, but the odds are now shifting toward Kohl. Even in Nicaragua, the more conservative candidate, Violeta Chamorro, has a decent chance of winning against the Sandinistas.

These successes build on the victories of the center right that began a dozen years ago in North America and Western Europe, and now the trend is spreading to East Asia, Latin America and perhaps this year to Eastern Europe. And they refute the received wisdom of generations of Marxists, American Progressives and even conservative theorists. New Deal historians like Arthur Schlesinger, Jr., preached that history is marching inexorably to the left, toward larger government and more international cooperation, while New Deal critics like Friedrich von Hayek feared the West was on "the road to serfdom."

Right on. *Reagan helped trend start*

For a time, the left was ascendant. Beginning in 1960, liberal parties replaced even successful parties of the right: Democrats in the U.S. in 1960, Labor in Britain in 1964, Trudeau Liberals in Canada in 1968, the *Apertura a sinistra* in Italy in the 1970s and the French Socialists belatedly in 1981. Their victories were in part a demographic dividend: Poor people of the 1930s and 1940s had more children than rich families, and the grown-up children of the Depression and the war tended to vote left.

But left parties didn't do very well in office, allowing government to grow too large at home, national power to flag abroad, their links with traditional cultural values to atrophy and inflation to take root. On a larger world scale, points out political analyst Richard Scammon, "Marxist Leninism became the God that failed." Nations have not abandoned the welfare state, but they now embrace the center. Thatcher launched the counterrevolution in 1979, followed by Ronald Reagan in 1980, Kohl in 1982 and Canada's Brian Mulroney in 1984. Socialist leaders, starting in France and now in Spain, Italy, Australia and New Zealand, have been privatizing state enterprises and praising market economics—and winning elections. Even Britain's Labor Party is moving right and has a big poll lead for the first time in a decade.

For the U.S. and President George Bush, the dominance of center-right parties provides a congenial climate for cautiously working out new security arrangements with the Soviet Union in Europe and in Asia. Economically, Bush confidants are thrilled that so many countries are embracing lower taxes, privatization of industry and a greater commitment to market forces. Some 55 nations have cut taxes since 1985, including Sweden. On a recent European trip, President Salinas of Mexico was hailed as the Thatcher of Latin America for selling off government enterprises and arresting corrupt labor leaders. In Eastern Europe, newly emerging leaders look to Scandinavian and West German Social Democrats for models. But even those models are being challenged from the right. For instance, Sweden's Socialist government fell last week after being in power 51 of 57 years; Solidarity's program for Poland is tough and austere, and the new Czechoslovak Finance Minister admits teaching young economists the theories of free-market purist von Hayek. ☐

Throw the bums out

Conservative direct-mail entrepreneurs, deprived of many old causes, have found a new issue to bring in the bucks: A proposal to limit terms of members of Congress. Unable to dent Democratic majorities in elections, some conservatives, joined by a few liberals who feel incumbents are out of touch, are leading a drive for a constitutional amendment limiting service in each house to 12 years.

The idea has widespread appeal, and referendums limiting legislators' terms are going on the ballot in California and Oklahoma. But the term limit, like so many reforms, may have unintended consequences. The 22nd Amendment, passed to bar a third term for a future Franklin Roosevelt, has made lame ducks only of Republican Presidents. By the time a 12-year limit is likely to go into effect, in 2002, its first major casualty may be not a Democrat but a Republican, Speaker Newt Gingrich, if his party makes the gains he seeks in the 1990s. ☐

Sunny-side politics

The era of negative political ads could be fading. So far this year, the TV spots that have dramatically moved votes in two of the biggest gubernatorial races are entirely positive. In California, Democrat Dianne Feinstein's 30-second spot, showing her taking office as mayor of San Francisco after her predecessor was murdered in 1978 and mentioning her pro-choice, pro-capital-punishment stands, has boosted her support in polls from the low 30s to the mid-40s. In Texas, Republican Clayton Williams's spots, mentioning his business experience, his education stands and his promise to introduce drug offenders to "the joys of bustin' rocks," raised him from zero to a big primary lead. The lesson: In these rather positive times, positive messages can work. ■

THE NEW YORK TIMES FORUM SUNDAY, APRIL 1, 1990 F 13

The Secure Way to Cut the Military

NYTimes 4-1-90

By STEVEN L. CANBY

[illegible]

Rearranging roles and missions within NATO could save the U.S. $40 billion a year.

[illegible]

Steven L. Canby is an economist and military strategist. He is a former Army infantry officer.

APPENDIX E

BIOGRAPHICAL SKETCH OF THE AUTHOR

AppendixE: Biographical Sketch of the Author

James L. Morrison, Professor of Education, the University of North Carolina at Chapel Hill, received his Ph.D. at the Florida State University in 1969. He was lecturer in sociology at the University of Maryland, European Division (1964-65), instructor in sociology at the Florida State University (1968-69), and assistant professor of education and sociology at the Pennsylvania State University (1969-73). He served two terms as a member of the Board of Directors, Association for the Study of Higher Education, chaired the special interest group on futures research, the American Educational Research Association, chaired the editorial board, *The Review of Higher Education*, and served as consulting editor of *The Review of Educational Research* and *The American Educational Research Journal*. He has served as vice president (Division J—Postsecondary Education), the American Educational Research Association, and as convener of the Forum on Environmental Scanning, The American Association for Higher Education. Author of *The Alternative Futures Approach to Long-Range Planning: A Handbook for Army Long-Range Planners* (Department of the Army, 1990), Co-editor of *Applying Methods and Techniques of Futures Research* (Jossey-Bass, 1983), and coauthor of *Futures Research and the Strategic Planning Process* (Association for the Study of Higher Education, 1984), his research and writing activities focus on using futures research methods in planning and policy analysis. The latter two publications and one article, "Establishing and Environmental Scanning System to Augment College and University Planning," (*Planning for Higher Education, 15 (1)*, 1987) have been cited as critical reading in *A Guide for New Planners* (Society for College and University Planning, 1988). His consulting activities focus on assisting colleges and universities in developing environmental scanning/forecasting systems to augment their long-range planning processes.

Appendix 16

END

U.S. Dept. of Education

Office of Education
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Improvement (OERI)

ERIC

Date Filmed

March 21,1991